Jefferson Science Associates

Earned Value Management System

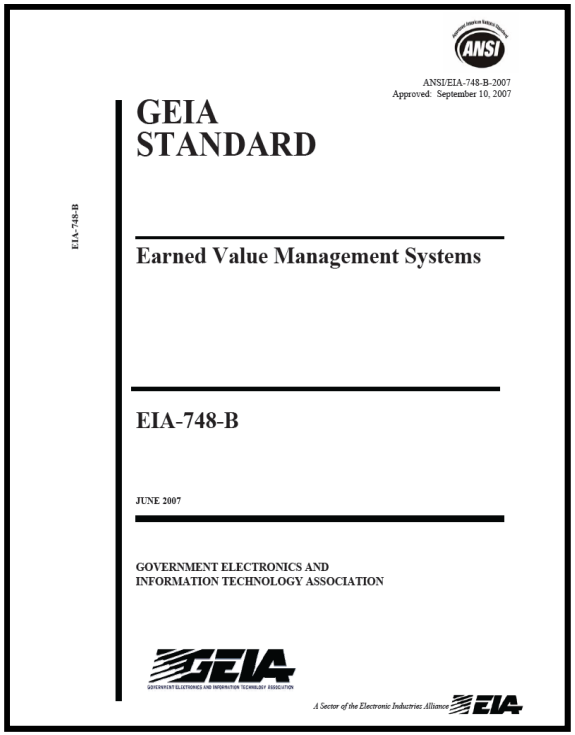
Overview

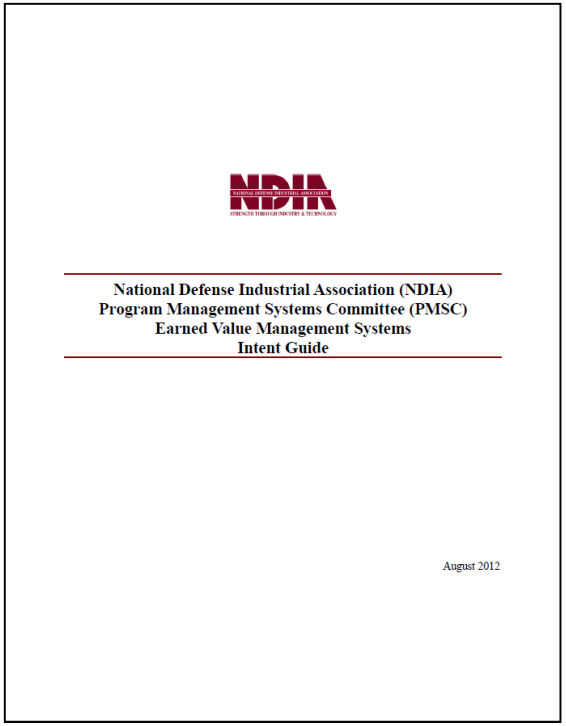
4 December 2013

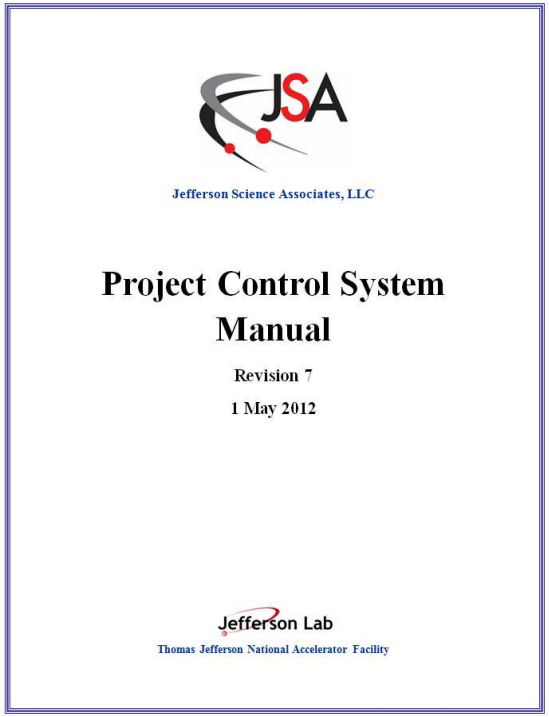
Dennis Miner, PMP
PMO

EVMS Source Documents

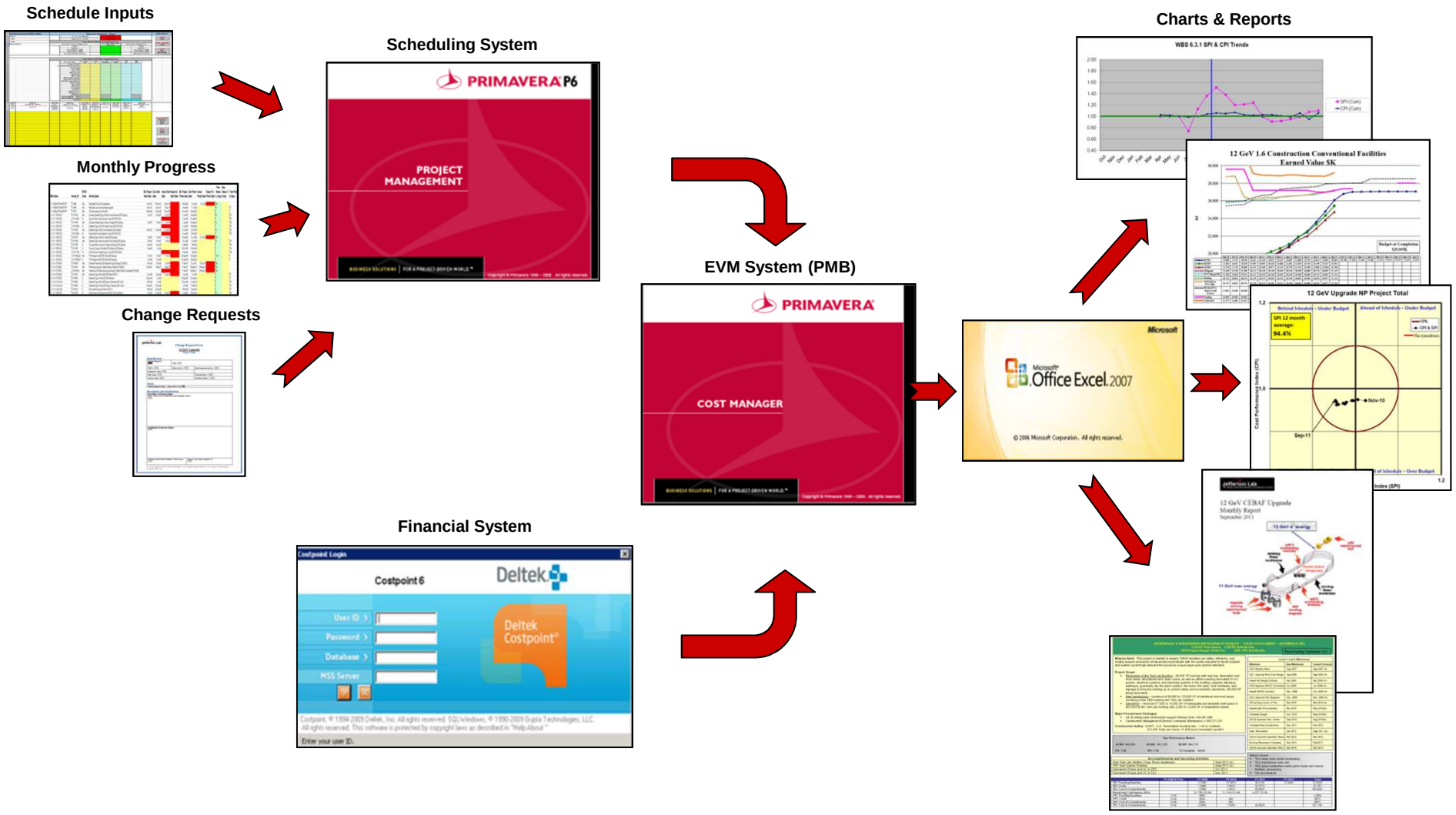
- **ANSI/EIA-748 Earned Value Management Systems**
  - **NDIA EVMS Intent Guide**
    - **JSA Project Control System Manual**





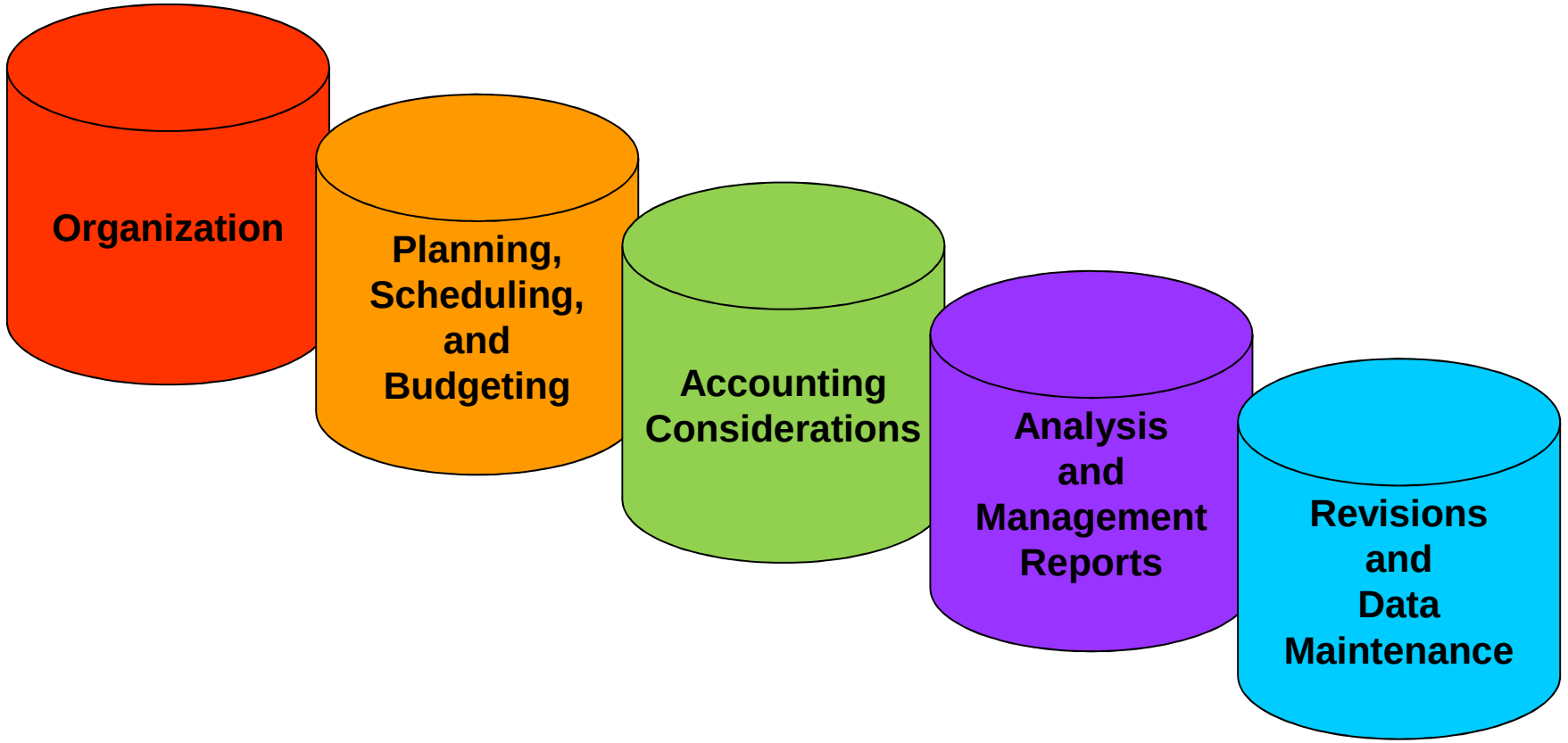


EVM System Overview



ANSI/EIA-748-B EVMS Standard

- **JSA EVMS structured around five ANSI/EIA-748-B categories**



Key Organizational Documents

- Work Breakdown Structure
- WBS Dictionary
- Organization Breakdown Structure
- Responsibility Assignment Matrix

Work Breakdown Structure

12 GeV WBS Code	WBS Title
1.3.2	Construction Accel Systems Power Systems
1.3.2.1	Construction Accel Systems Power Systems RF
1.3.2.1.1	Construction Accel Systems Power Systems RF Power
1.3.2.1.1.1	Construction Accel Systems Power Systems RF Klystrons
1.3.2.1.1.2	Construction Accel Systems Power Systems RF DC Power
1.3.2.1.1.2.1	Construction Accel Systems Power Systems RF HV DC Power Supplies
1.3.2.1.1.2.2	Construction Accel Systems Power Systems RF HPA Systems
1.3.2.1.1.3	Construction Accel Systems Power Systems RF Waveguide Components
1.3.2.1.2	Construction Accel Systems Power Systems RF Control
1.3.2.1.2.1	Construction Accel Systems Power Systems RF Control Field Control (RF items)
1.3.2.1.2.2	Construction Accel Systems Power Systems RF Control Resonance Control & Interlocks (interlocks, tuner controls)
1.3.2.1.2.3	Construction Accel Systems Power Systems RF Control Packaging/Interface (racks, crates)
1.3.2.1.2.4	Construction Accel Systems Power Systems RF Control CPU & Software
1.3.2.1.2.5	Construction Accel Systems Power Systems RF Control Test Stand
1.3.2.1.2.6	Not Used
1.3.2.1.2.7	Construction Accel Systems Power Systems RF Control HPA Controls

Work Breakdown Structure

- **CIO* from 2011 DOE EVMS Review**

  Work Breakdown Structure – As stated in the PCSM, for DOE projects, the WBS Level 2 segments will normally be funding types. The standard expectation is that the WBS should be a product-oriented structure. Implement a product-oriented WBS on all future capital asset projects and revise in the System Description.

WBS Code	WBS Name
12 GEV BL14-001 CSTD	COSTED BL14-001 12 GeV CR13-015,14-001
12 GEV BL14-001 CSTD.0M	1.M MILESTONES
12 GEV BL14-001 CSTD.0	1.0 CONCEPTUAL & ADVANCED CONCEPTUAL DESIGN REVIEW ACTIVITIES
12 GEV BL14-001 CSTD.1	1.1 R&D
12 GEV BL14-001 CSTD.2	1.2 PED
12 GEV BL14-001 CSTD.3	1.3 CONSTRUCTION ACCELERATOR SYSTEMS
12 GEV BL14-001 CSTD.4	1.4 CONSTRUCTION UPGRADE HALLS A, B, & C
12 GEV BL14-001 CSTD.5	1.5 CONSTRUCTION HALL D
12 GEV BL14-001 CSTD.6	1.6 CONVENTIONAL FACILITIES
12 GEV BL14-001 CSTD.7	1.7 PROJECT MANAGEMENT
12 GEV BL14-001 CSTD.8	1.8 CONSTRUCTION PRE-OPS
12 GEV BL14-001 CSTD.9	1.9 VA STATE
12 GEV BL14-001 CSTD.10	1.10 NON DOE SCOPE

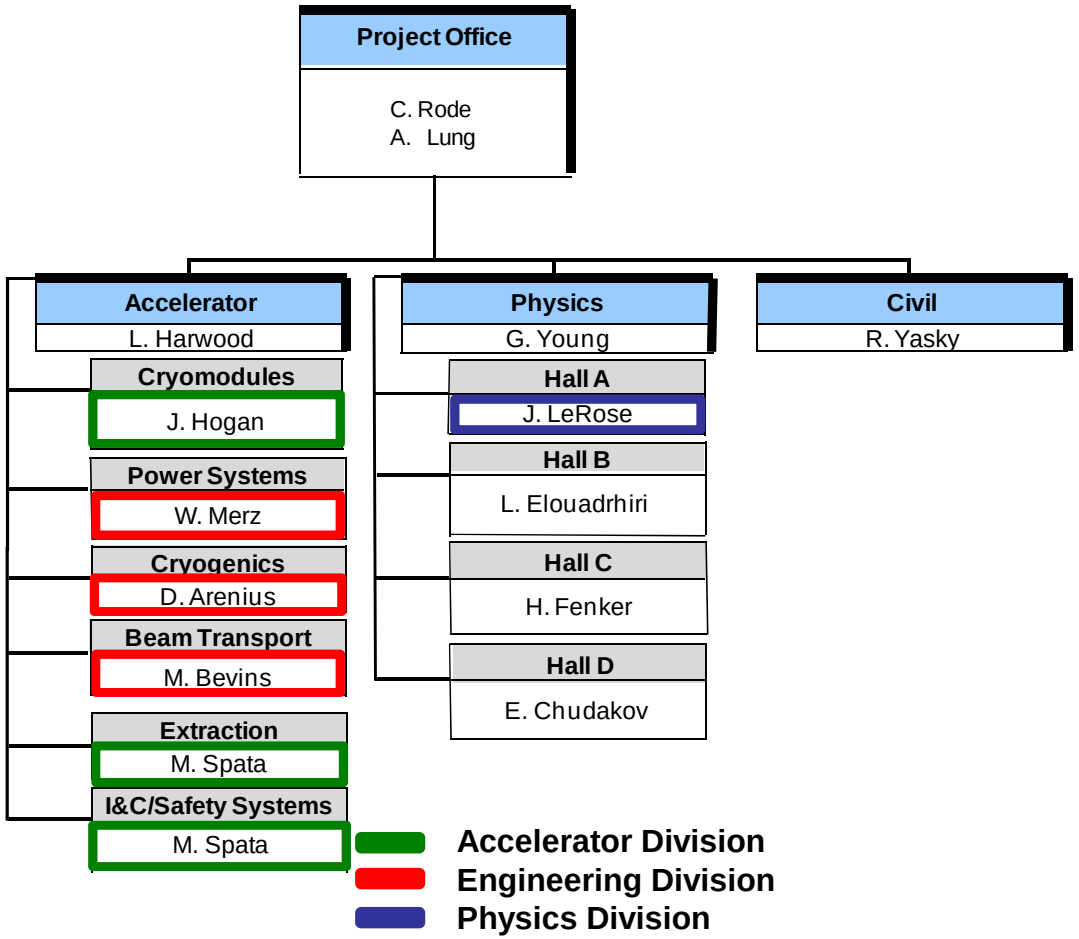
WBS Dictionary

12 GeV WBS Code	WBS Title	WBS Description
1.3.2	Construction Accel Systems Power Systems	This summary WBS covers the equipment and installation of the accelerator RF and magnet power systems.
1.3.2.1	Construction Accel Systems Power Systems RF	This summary WBS covers the high power & low level RF system equipment and installation: 10 new zones of 8 cavities x 13 kW/cavity.
1.3.2.1.1	Construction Accel Systems Power Systems RF Power	This summary WBS covers the high power RF system equipment and installation: 10 zones, 80 cavities.
1.3.2.1.1.1	Construction Accel Systems Power Systems RF Klystrons	This WBS element includes the procurement and testing of the 13kW RF Power Source: 10 zones, 80 RF Power Devices (Tubes).
1.3.2.1.1.2	Construction Accel Systems Power Systems RF DC Power	This summary WBS covers the procurement, assembly, installation, and testing of the HV DC Power systems and HPA assembly and support electronics: 10 zones Includes 10 HV DC power supplies, RF source (tube) support electronics, interlocks and controls as well as mechanical assembly for mounting all hardware.
1.3.2.1.1.2.1	Construction Accel Systems Power Systems RF HV DC Power Supplies	This WBS element includes the procurement, installation, and testing of 10 HV DC Power Supplies, each supplying power to eight 13 kW CW klystrons.
1.3.2.1.1.2.2	Construction Accel Systems Power Systems RF HPA Systems	This WBS element includes the procurement, assembly, installation, and testing of HPA (High Power Amplifier) systems for 10 zones. Systems include auxiliary electronics (filament, mod anode, solenoid power supplies, etc.), interlocks and interfaces to external systems and controls, cabinets, and support structures to accommodate eight klystrons and associated equipment.
1.3.2.1.1.3	Construction Accel Systems Power Systems RF Waveguide Components	This WBS element includes procurement and installation of circulators, couplers, and waveguide plumbing for 10 zones and connections from the high power RF device output to the cavity input for 80 cavities. Also includes 40 HOM waveguide filters.
1.3.2.1.2	Construction Accel Systems Power Systems RF Control	This summary WBS covers the low level RF system equipment procurement, construction and installation for 80 cavities.
1.3.2.1.2.1	Construction Accel Systems Power Systems RF Control Field Control (RF items)	This WBS element includes procurement, building, testing and installation of 80 LLRF control modules and support hardware for cavity gradient and phase control.
1.3.2.1.2.2	Construction Accel Systems Power Systems RF Control Resonance Control & Interlocks (interlocks, tuner controls)	This WBS element includes procurement, building, testing and installation of cavity tuning electronics and cavity interlocks and includes 80 Stepper motor controls, 80 Piezo electric tuner controls, 10 zones of cavity and system interlocks.
1.3.2.1.2.3	Construction Accel Systems Power Systems RF Control Packaging/Interface (racks, crates)	This WBS element includes procurement, building, testing and installation of racks & interface for cavity LLRF, tuning and interlock controls and includes 2 racks per zone, cable and interconnect hardware, auxiliary power supplies.
1.3.2.1.2.4	Construction Accel Systems Power Systems RF Control CPU & Software	This WBS element includes procurement, building, testing and installation of LLRF embedded IOC and communications hardware. The WBS element also includes the development and check software/EPICS interface for 10 zones and includes 11 PC104 processors and associated hardware per zone.
1.3.2.1.2.5	Construction Accel Systems Power Systems RF Control Test Stand	This WBS element includes the build of offline test stands for LLRF controls calibration and testing.
1.3.2.1.2.6	Not Used	Not Used.
1.3.2.1.2.7	Construction Accel Systems Power Systems RF Control HPA Controls	This WBS element includes procurement, building, testing and installation of a HPA controller for 10 zones of new RF.

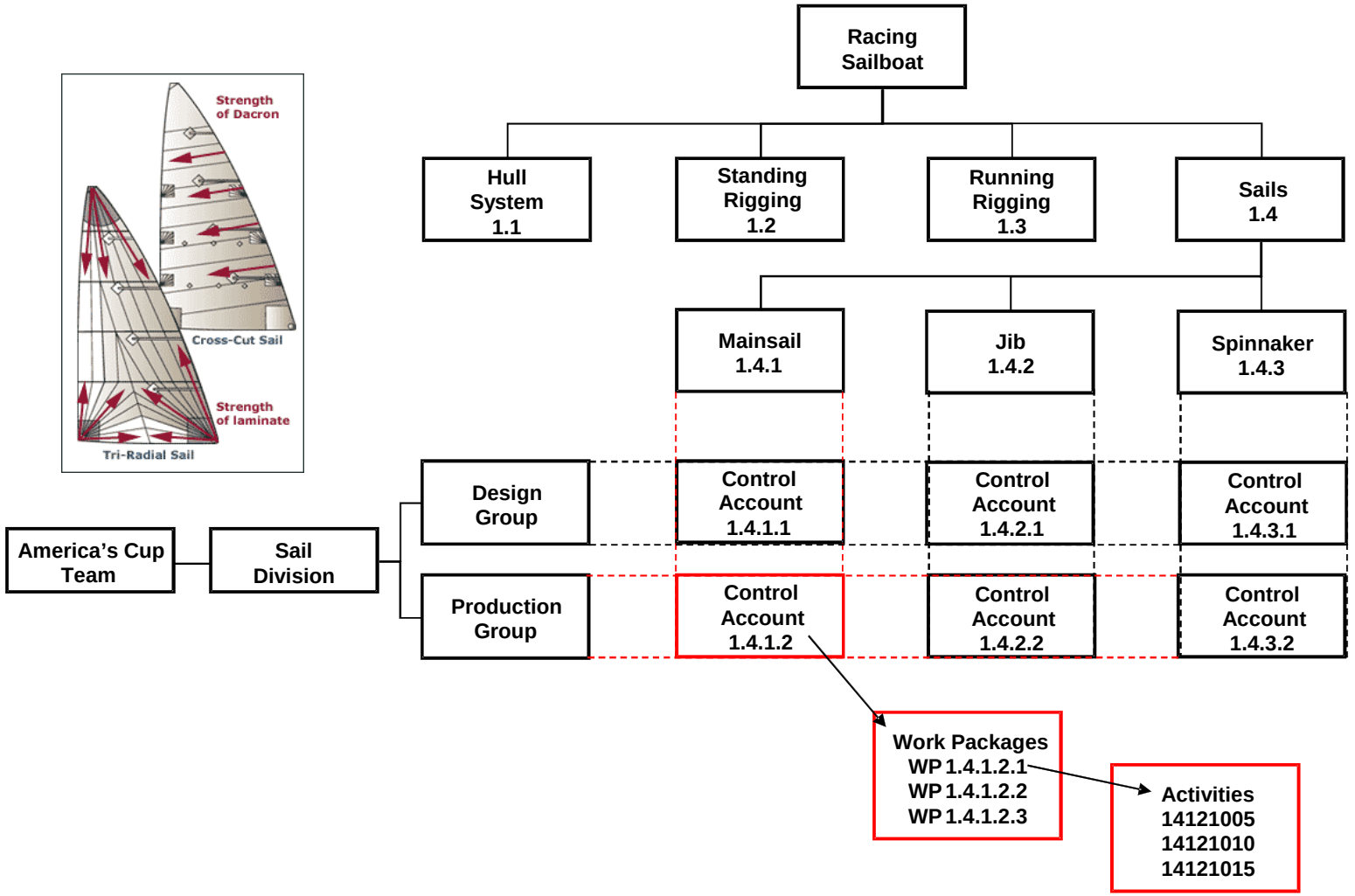
WBS is under formal Change Control

Organization Breakdown Structure

12 GeV



WBS & OBS Integration

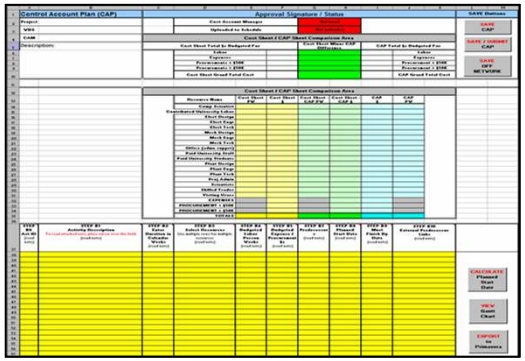


Responsibility Assignment Matrix

WBS	WBS Title	ORGANIZATION													
		JLab Institute for SRF Science & Technology	JLab Engineering Division Electrical Systems Support	JLab Engineering Division Mechanical Engineering	JLab Engineering Division Cryogenics	JLab Center for Advanced Studies of Accelerators	JLab Experimental Hall A	12 GeV Project Office	12 GeV Accelerator	12 GeV Physics	12 GeV Civil	12 GeV Hall B	12 GeV Hall C	12 GeV Hall D	TOTAL
		J. Hogan	B. Merz	M. Bevins	D. Arenius	M. Spata	J. LeRose	C. Rode	L. Harwood	G. Young	R. Yasky	L. Elouadrhiri	H. Fenker	E. Chudakov	$K
ACD/CDR															
1.0								3,445							3,445
R&D															
1.1.1	R&D Accel Systems Cryomodules	1,535													1,535
1.1.2	R&D Accel Systems Power Systems		1,053												1,053
1.1.4	R&D Accel Systems Beam Transport			240											240
1.1.2	R&D Hall A						83								83
1.1.3	R&D Hall B											1,332			1,332
1.1.4	R&D Hall C												467		467
1.1.5	R &D Hall D													1,848	1,848
1.1.6	R&D Civil										55				55
1.1.7	R&D Project Management							437							437
PED															
1.2.1.1	PED Accel Systems Cryomodules	821													821
1.2.1.2	PED Accel Systems Power Systems		2,258												2,258
1.2.1.3	PED Accel Systems Cryogenics				1,276										1,276
1.2.1.4	PED Accel Systems Beam Transport			3,301											3,301
1.2.1.5	PED Accel Systems Extraction					471									471
1.2.1.6	PED Accel Systems Instrumentation, Controls, and Safety Systems					994									994
1.2.2.1	PED Upgrade Hall A						173								173
1.2.2.2	PED Upgrade Hall B											3,063			3,063
1.2.2.3	PED Upgrade Hall C												1,768		1,768
1.2.3	PED Hall D													2,956	2,956
1.2.4	PED Conventional Facilities										1,210				1,210
1.2.5	PED Project Management							2,637							2,637
1.2.6	PED Accelerator Systems Commissioning Planning					65									65
Construction															
1.3.1.1	Construction Accel Systems Cryomodules Procurements	20,760													20,760
1.3.1.2	Construction Accel Systems Cavity String Assembly	1,316													1,316
1.3.1.3	Construction Accel Systems Cryomodule Assembly	2,333													2,333
1.3.1.4	Construction Accel Systems Acceptance Testing	668													668
1.3.1.5	Construction Accel Systems Installation	357													357
1.3.1.6	Construction Accel Systems Microphonics	290													290
1.3.2.1.1	Construction Accel Systems Power Systems RF Power		8,836												8,836
1.3.2.1.2	Construction Accel Systems Power Systems RF Control		2,559												2,559
1.3.2.1.3	Construction Accel Systems RF Installation & System Commissioning		246												246
1.3.2.2	Construction Accel Systems Magnet Power		7,380												7,380

Planning, Scheduling, and Budgeting

Schedule Inputs



Scheduling System

EVM System (PMB)

Planning, Scheduling, and Budgeting

Work Package Sheet

Work Package Sheet

Project	12 GeV
WBS	
CAM	
Description:	

STEP #6 Act ID (read note)	STEP #1 Activity Description To read attached note, place curser over this field (read note)	STEP #2 Enter Activity Duration in Hours (read note)	STEP #3 Select Resources Use multiple rows for multiple resources (read note)	STEP #4 Budgeted Labor Person Hours (read note)	STEP #5 Budgeted Expense / Procurement $ (read note)	STEP #7 Predecessors (read note)	STEP #8 Planned Start Date (read note)	STEP #9 Planned Finish Date (read note)	STEP #10 Location of Work (read note)	STEP #11 External Predecessor Links (read note)
1	Test Activity#1	8	VISTNG USERS	2			1/5/12 8:00	1/5/12 16:00	INJECTOR	
2	Test Activity#2	8	S/A PCMM (FARO ARM	2		1	1/6/12 8:00	1/6/12 16:00	PRE-ACCELERATOR	
3	Test Activity#3	6	COMP SCIENT	2		2	1/9/12 8:00	1/9/12 14:00	PRE-ACCELERATOR CHICANE	
4	Test Activity#4	12	EE RF ELEC ENG	2		3	1/9/12 14:00	1/11/12 10:00	NL ZONE 26	
5	Test Activity#5	8	P RIGGER			4	1/11/12 10:00	1/12/12 10:00	NE SPREADER REGION 3	
6	Test Activity#6	8	FACIL-EQUIP WO$			5	1/12/12 10:00	1/13/12 10:00	NE EXTRACTOR REGION 3	
7	Test Activity#7	4	FLD EM VIEWR			6	1/13/12 10:00	1/13/12 14:00	EA QUAD 4 STACK 16	
8	Test Activity#8	6	2K HE			7	1/13/12 14:00	1/17/12 12:00	NW RECOMBINER REGION 3	
9	Test Activity#9	4	NITROGEN CLNG STN	2		8	1/17/12 12:00	1/17/12 16:00	SE RECOMBINER REGION 3	
10	Test Activity#10	6	HALL D SCIENTIST	2		9	1/18/12 8:00	1/18/12 14:00	SW SPREADER REGION 3	

CALCULATE Planned Start Date

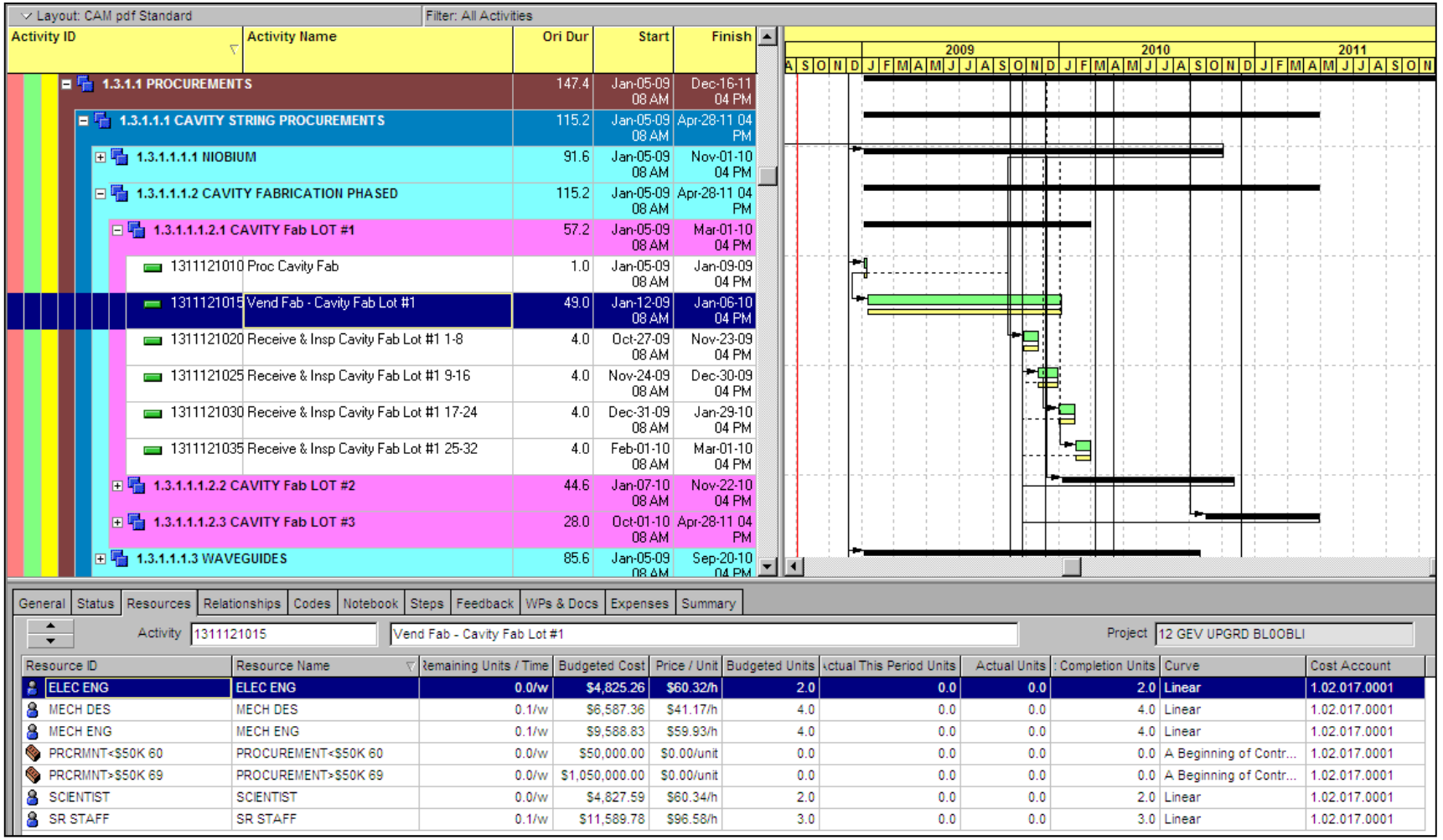
VIEW Gantt Chart

EXPORT to Primavera

- **Used for initial work package data entry to P6**

Planning, Scheduling, and Budgeting

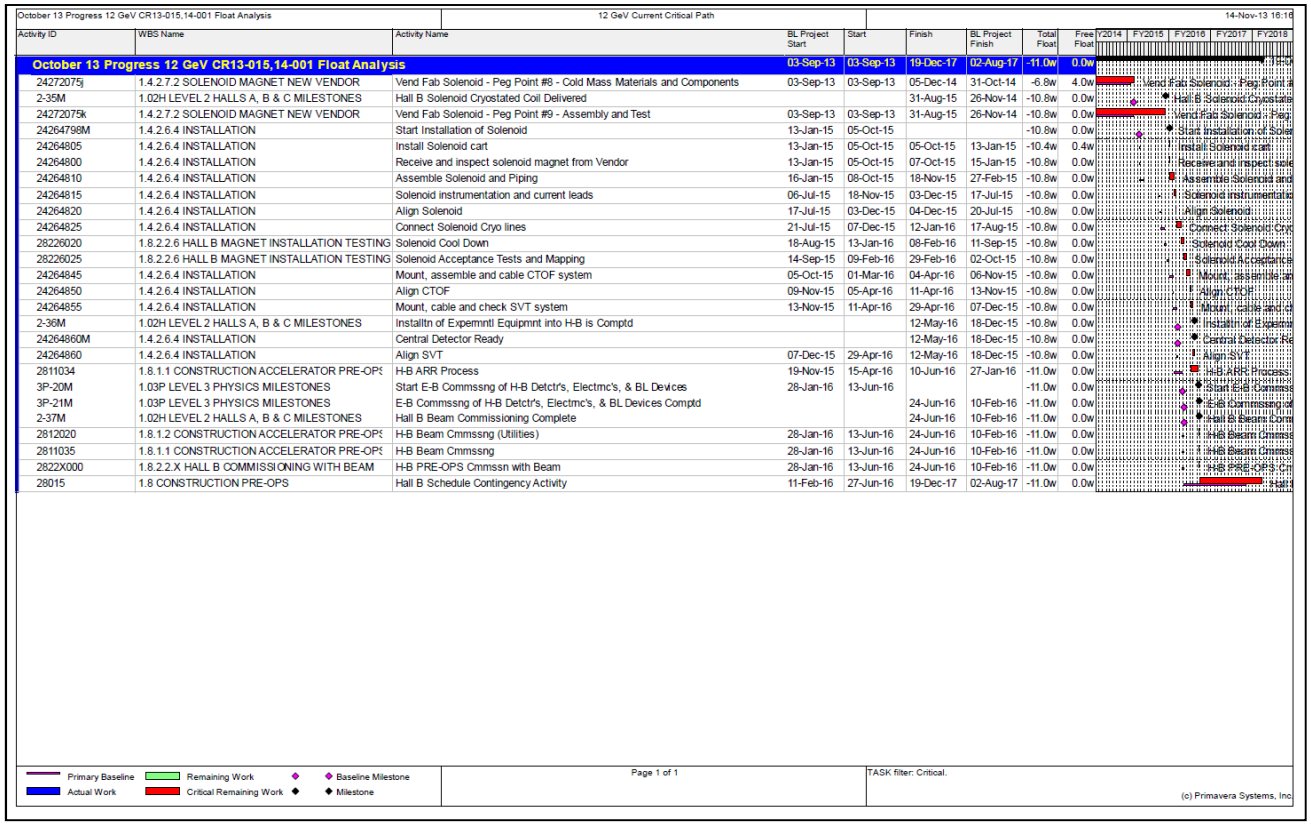
Resource-Loaded Schedule



Schedule Integrity

- **CAR from 2011 DOE EVMS Review**

Schedule Integrity – The subcontractor's schedules are not integrated into the project schedules. All capital asset projects must be able to produce a critical path schedule. The projects must be able to demonstrate horizontal and vertical integration of the schedule.



October 13 Progress 12 GeV CR13-015,14-001 Float Analysis | 12 GeV Current Critical Path | 14-Nov-13 16:16

Activity ID	WBS Name	Activity Name	BL Project Start	Start	Finish	BL Project Finish	Total Float	Free Float
October 13 Progress 12 GeV CR13-015,14-001 Float Analysis			03-Sep-13	03-Sep-13	19-Dec-17	02-Aug-17	-11.0w	0.0w
24272075j	1.4.2.7.2 SOLENOID MAGNET NEW VENDOR	Vend Fab Solenoid - Peg Point #8 - Cold Mass Materials and Components	03-Sep-13	03-Sep-13	05-Dec-14	31-Oct-14	-6.8w	4.0w
2-35M	1.02H LEVEL 2 HALLS A, B & C MILESTONES	Hall B Solenoid Cryostated Coil Delivered			31-Aug-15	26-Nov-14	-10.8w	0.0w
24272075k	1.4.2.7.2 SOLENOID MAGNET NEW VENDOR	Vend Fab Solenoid - Peg Point #9 - Assembly and Test	03-Sep-13	03-Sep-13	31-Aug-15	26-Nov-14	-10.8w	0.0w
24264798M	1.4.2.6.4 INSTALLATION	Start Installation of Solenoid	13-Jan-15	05-Oct-15			-10.8w	0.0w
24264805	1.4.2.6.4 INSTALLATION	Install Solenoid cart	13-Jan-15	05-Oct-15	05-Oct-15	13-Jan-15	-10.4w	0.4w
24264800	1.4.2.6.4 INSTALLATION	Receive and inspect solenoid magnet from Vendor	13-Jan-15	05-Oct-15	07-Oct-15	15-Jan-15	-10.8w	0.0w
24264810	1.4.2.6.4 INSTALLATION	Assemble Solenoid and Piping	16-Jan-15	08-Oct-15	18-Nov-15	27-Feb-15	-10.8w	0.0w
24264815	1.4.2.6.4 INSTALLATION	Solenoid instrumentation and current leads	06-Jul-15	18-Nov-15	03-Dec-15	17-Jul-15	-10.8w	0.0w
24264820	1.4.2.6.4 INSTALLATION	Align Solenoid	17-Jul-15	03-Dec-15	04-Dec-15	20-Jul-15	-10.8w	0.0w
24264825	1.4.2.6.4 INSTALLATION	Connect Solenoid Cryo lines	21-Jul-15	07-Dec-15	12-Jan-16	17-Aug-15	-10.8w	0.0w
28226020	1.8.2.2.6 HALL B MAGNET INSTALLATION TESTING	Solenoid Cool Down	18-Aug-15	13-Jan-16	08-Feb-16	11-Sep-15	-10.8w	0.0w
28226025	1.8.2.2.6 HALL B MAGNET INSTALLATION TESTING	Solenoid Acceptance Tests and Mapping	14-Sep-15	09-Feb-16	29-Feb-16	02-Oct-15	-10.8w	0.0w
24264845	1.4.2.6.4 INSTALLATION	Mount, assemble and cable CTOF system	05-Oct-15	01-Mar-16	04-Apr-16	06-Nov-15	-10.8w	0.0w
24264850	1.4.2.6.4 INSTALLATION	Align CTOF	09-Nov-15	05-Apr-16	11-Apr-16	13-Nov-15	-10.8w	0.0w
24264855	1.4.2.6.4 INSTALLATION	Mount, cable and check SVT system	13-Nov-15	11-Apr-16	29-Apr-16	07-Dec-15	-10.8w	0.0w
2-36M	1.02H LEVEL 2 HALLS A, B & C MILESTONES	Installtn of Experimntl Equipmnt into H-B is Comptd			12-May-16	18-Dec-15	-10.8w	0.0w
24264860M	1.4.2.6.4 INSTALLATION	Central Detector Ready			12-May-16	18-Dec-15	-10.8w	0.0w
24264860	1.4.2.6.4 INSTALLATION	Align SVT	07-Dec-15	29-Apr-16	12-May-16	18-Dec-15	-10.8w	0.0w
2811034	1.8.1.1 CONSTRUCTION ACCELERATOR PRE-OPS	H-B ARR Process	19-Nov-15	15-Apr-16	10-Jun-16	27-Jan-16	-11.0w	0.0w
3P-20M	1.03P LEVEL 3 PHYSICS MILESTONES	Start E-B Commssng of H-B Detctr's, Electmc's, & BL Devices	28-Jan-16	13-Jun-16			-11.0w	0.0w
3P-21M	1.03P LEVEL 3 PHYSICS MILESTONES	E-B Commssng of H-B Detctr's, Electmc's, & BL Devices Comptd			24-Jun-16	10-Feb-16	-11.0w	0.0w
2-37M	1.02H LEVEL 2 HALLS A, B & C MILESTONES	Hall B Beam Commissioning Complete			24-Jun-16	10-Feb-16	-11.0w	0.0w
2812020	1.8.1.2 CONSTRUCTION ACCELERATOR PRE-OPS	H-B Beam Cmmssng (Utilities)	28-Jan-16	13-Jun-16	24-Jun-16	10-Feb-16	-11.0w	0.0w
2811035	1.8.1.1 CONSTRUCTION ACCELERATOR PRE-OPS	H-B Beam Cmmssng	28-Jan-16	13-Jun-16	24-Jun-16	10-Feb-16	-11.0w	0.0w
2822X000	1.8.2.2.X HALL B COMMISSIONING WITH BEAM	H-B PRE-OPS Cmmssn with Beam	28-Jan-16	13-Jun-16	24-Jun-16	10-Feb-16	-11.0w	0.0w
28015	1.8 CONSTRUCTION PRE-OPS	Hall B Schedule Contingency Activity	11-Feb-16	27-Jun-16	19-Dec-17	02-Aug-17	-11.0w	0.0w

FY2014 | FY2015 | FY2016 | FY2017 | FY2018

Primary Baseline | Remaining Work | Baseline Milestone
Actual Work | Critical Remaining Work | Milestone

Page 1 of 1

TASK filter: Critical.

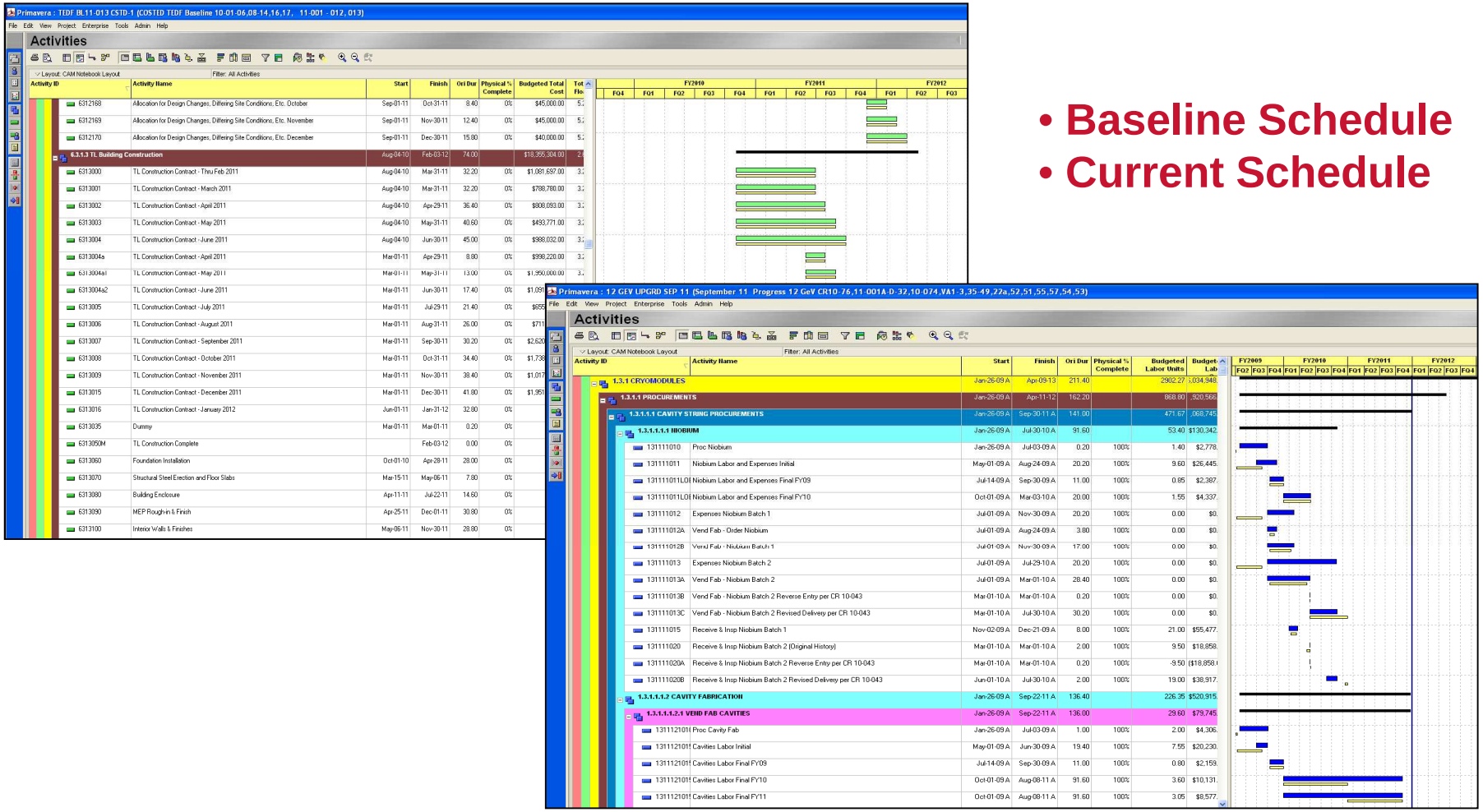
(c) Primavera Systems, Inc.

Cost Development

- **Cost Estimating (Primavera P6)**
  - **Procurements (direct $)**
  - **Labor (direct $)**
  - **Supplies & Material (direct $)**
  - **Expenses (direct $)**
- **Cost Budgeting (Primavera Cost Manager)**
  - **Aggregate project elements**
    - **Activities to Work Packages to Control Accounts**
    - **Total Cost Baseline**
  - **Includes indirect $ plus escalation**
  - **Performance Measurement Baseline**

Planning, Scheduling, and Budgeting

P6 Schedules



- Baseline Schedule
- Current Schedule

Control Account Plan

- **CAR from 2011 DOE EVMS Review**

Control Account Plan – Data contained in Primavera (P6) does not include the detailed schedule and budget information as defined within the Project Controls System Manual (PCSM). JSA-JLAB should ensure that as a minimum, the CAP contains a time-phased budget, work definition and schedule (including resource planning), and can be appended to the Work Authorization Document (WAD).

12 GeV Control Account Manager NOTEBOOK

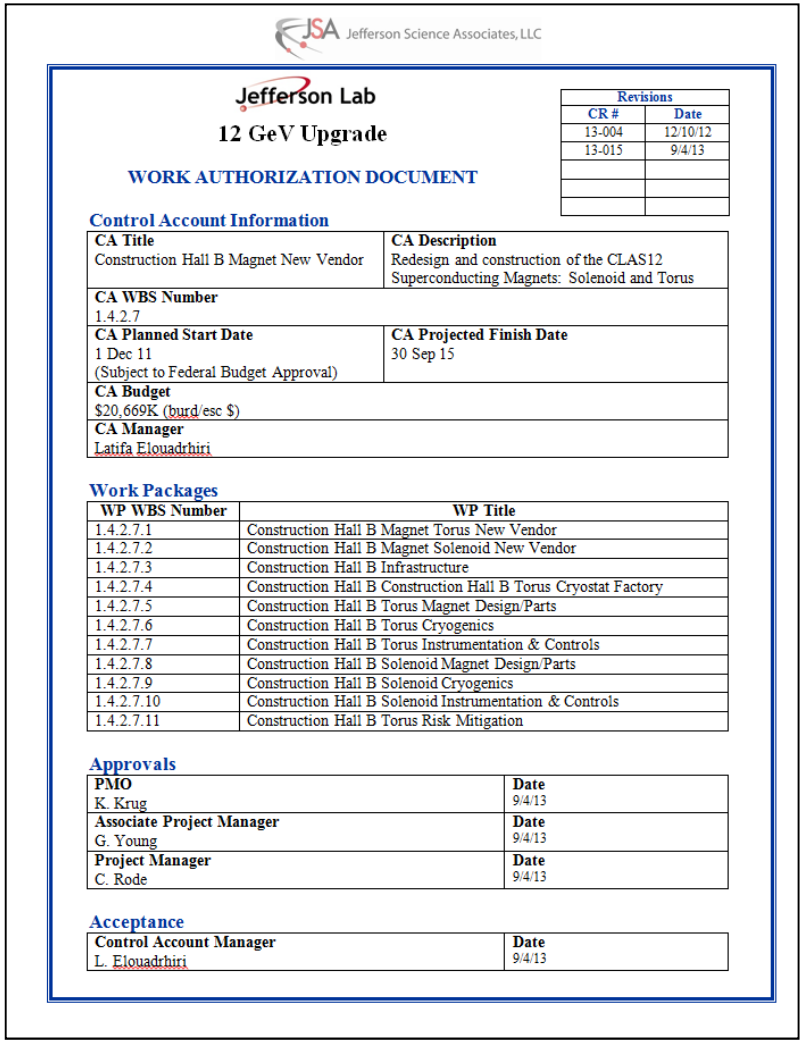
PLANNING, SCHEDULING, AND BUDGETING

- P6 Baseline Schedule
- P6 Current Schedule
- Cost Sheets
- **Control Account Plans**
  - Work Authorization Document
  - WBS Dictionary
  - Baseline Schedule
  - Resource Plan
  - Time-Phased Budget

Planning, Scheduling, and Budgeting

Work Authorization Document

- **Original document before work begins**
- **Updated with each Change Request**



Jefferson Science Associates, LLC

Jefferson Lab

12 GeV Upgrade

WORK AUTHORIZATION DOCUMENT

Revisions	
CR #	Date
13-004	12/10/12
13-015	9/4/13

Control Account Information

CA Title Construction Hall B Magnet New Vendor	**CA Description** Redesign and construction of the CLAS12 Superconducting Magnets: Solenoid and Torus
CA WBS Number 1.4.2.7	
CA Planned Start Date 1 Dec 11 (Subject to Federal Budget Approval)	**CA Projected Finish Date** 30 Sep 15
CA Budget $20,669K (burd/esc $)	
CA Manager Latifa Elouadrhiri	

Work Packages

WP WBS Number	WP Title
1.4.2.7.1	Construction Hall B Magnet Torus New Vendor
1.4.2.7.2	Construction Hall B Magnet Solenoid New Vendor
1.4.2.7.3	Construction Hall B Infrastructure
1.4.2.7.4	Construction Hall B Construction Hall B Torus Cryostat Factory
1.4.2.7.5	Construction Hall B Torus Magnet Design/Parts
1.4.2.7.6	Construction Hall B Torus Cryogenics
1.4.2.7.7	Construction Hall B Torus Instrumentation & Controls
1.4.2.7.8	Construction Hall B Solenoid Magnet Design/Parts
1.4.2.7.9	Construction Hall B Solenoid Cryogenics
1.4.2.7.10	Construction Hall B Solenoid Instrumentation & Controls
1.4.2.7.11	Construction Hall B Torus Risk Mitigation

Approvals

PMO K. Krug	**Date** 9/4/13
Associate Project Manager G. Young	**Date** 9/4/13
Project Manager C. Rode	**Date** 9/4/13

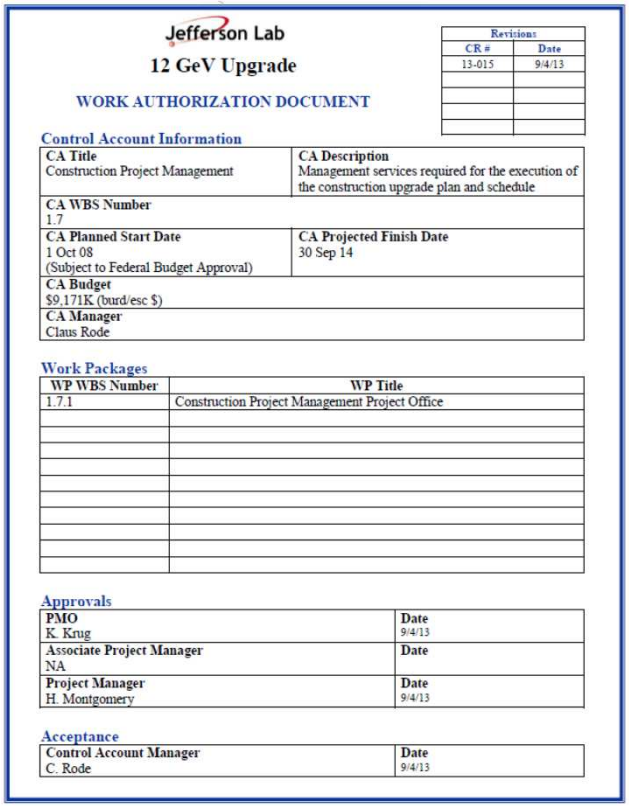
Acceptance

Control Account Manager L. Elouadrhiri	**Date** 9/4/13

Work Authorization Document

- **CIO* from 2011 DOE DOE EVMS Review**

  <u>Work Authorization Documents</u> – Project Managers (PM)/CAMs cannot approve their own WADs. CAR (corrected on site during review) System Description requires updating.



Jefferson Lab

12 GeV Upgrade

WORK AUTHORIZATION DOCUMENT

Revisions	
CR #	Date
13-015	9/4/13

Control Account Information

CA Title Construction Project Management	**CA Description** Management services required for the execution of the construction upgrade plan and schedule
CA WBS Number 1.7	
CA Planned Start Date 1 Oct 08 (Subject to Federal Budget Approval)	**CA Projected Finish Date** 30 Sep 14
CA Budget $9,171K (burd/esc $)	
CA Manager Claus Rode	

Work Packages

WP WBS Number	WP Title
1.7.1	Construction Project Management Project Office

Approvals

PMO K. Krug	**Date** 9/4/13
Associate Project Manager NA	**Date**
Project Manager H. Montgomery	**Date** 9/4/13

Acceptance

Control Account Manager C. Rode	**Date** 9/4/13

From the PCS Manual….

B. To authorize the expenditure of effort and budget for a control account, the Project Manager will issue a Work Authorization Document (WAD) (Exhibit 8) to the Control Account Manager at the appropriate period in the project schedule. The WAD contains the control account information, a list of associated work packages, approval signatures, and acceptance signature of the Control Account Manager. **(Note: If the Project Manager also serves as the CAM for a particular control account, the WAD must be approved and signed by the Project Manager's supervisor.)**

Other CAP Documents

- **Resource Plan**

Row Labels	Sum of FY14 Budgeted Cost	Sum of FY14 Budgeted Units	Sum of FY15 Budgeted Cost	Sum of FY15 Budgeted Units	Sum of FY16 Budgeted Cost	Sum of FY16 Budgeted Units
1.3.2.2	**$ 2,016,214.57**	**122.59**	**$ 326.50**	**0.00**	**$ -**	**0.00**
COMP SCIENT.COMP SCIENT	$ 33,365.82	11.93	$ -	0.00	$ -	0.00
ELEC DES.ELEC DES	$ 30,606.17	14.20	$ -	0.00	$ -	0.00
ELEC ENG.ELEC ENG	$ 63,843.76	21.21	$ -	0.00	$ -	0.00
ELEC TECH.ELEC TECH	$ 114,286.87	60.82	$ -	0.00	$ -	0.00
EXPNS SUPPLS & MATLS.SUPPLIES & MATERIALS	$ 19,980.38	0.00	$ 326.50	0.00	$ -	0.00
EXPNS TRAVEL.TRAVEL	$ 8,006.37	0.00	$ -	0.00	$ -	0.00
PRCRMNT<$50K 60NOESC.PROCUREMENT<$50K 60 NO ESCALATION	$ 24,997.61	0.00	$ -	0.00	$ -	0.00
PRCRMNT<$50K60NESC14.PROCUREMENT<$50K 60 NO ESCALATION FY14	$ 1,675.11	0.00	$ -	0.00	$ -	0.00
PRCRMNT>$50K 69NOESC.PROCUREMENT>$50K 69 NO ESCALATION	$ 1,666,218.02	0.00	$ -	0.00	$ -	0.00
SKILLED TRADE.SKLLD TRADE	$ 6,883.56	4.83	$ -	0.00	$ -	0.00
SR STAFF.SR STAFF	$ 46,350.90	9.60	$ -	0.00	$ -	0.00
1.3.4.1	**$ 79,006.92**	**10.90**	**$ -**	**0.00**	**$ -**	**0.00**
EXPNS SUPPLS & MATLS.SUPPLIES & MATERIALS	$ -	0.00	$ -	0.00	$ -	0.00
MECH ENG.MECH ENG	$ 6,472.30	2.17	$ -	0.00	$ -	0.00
MECH TECH.MECH TECH	$ 16,534.62	8.73	$ -	0.00	$ -	0.00
PRCRMNT<$50K 60.PROCUREMENT<$50K 60	$ -	0.00	$ -	0.00	$ -	0.00
PRCRMNT>$50K 69NOESC.PROCUREMENT>$50K 69 NO ESCALATION	$ 56,000.00	0.00	$ -	0.00	$ -	0.00
1.3.4.2	**$ 94,404.29**	**41.25**	**$ -**	**0.00**	**$ -**	**0.00**
MECH DES.MECH DES	$ 15,917.88	7.76	$ -	0.00	$ -	0.00
MECH ENG.MECH ENG	$ 19,541.71	6.54	$ -	0.00	$ -	0.00
MECH TECH.MECH TECH	$ 51,024.31	26.95	$ -	0.00	$ -	0.00
PRCRMNT<$50K 60.PROCUREMENT<$50K 60	$ (10,319.00)	0.00	$ -	0.00	$ -	0.00
PRCRMNT<$50K60NESC14.PROCUREMENT<$50K 60 NO ESCALATION FY14	$ 18,239.39	0.00	$ -	0.00	$ -	0.00

- **Time-Phased Budget**

12 GeV BL14-001, Control Account, Burd, Esc, Oct 13 (Time-Phased)

		Fiscal Year													
Basis	Task	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Totals
Base	1.0	74,661.35	788,362.11	2,019,313.71	614,854.62						-52,127.55				3,445,064.23
	1.1.1.1	2,249.30	162,218.61	514,907.36	554,646.11	145,291.35	85,305.00				70,508.37				1,535,126.09
	1.1.1.2		752,611.09	269,724.59	44,278.49						-13,484.24				1,053,129.92
	1.1.1.4			109,006.40		81,775.48					49,565.61				240,347.49
	1.1.2		83,113.85												83,113.85
	1.1.3		131,303.10	327,677.23	509,389.49	349,449.12					13,893.51				1,331,712.45
	1.1.4		85,245.50	30,306.92	283,739.38	66,072.70					1,693.82				467,058.31
	1.1.5		94,915.94	226,021.26	1,082,470.94	440,241.19					4,649.36				1,848,298.49
	1.1.6		44,015.71	11,432.59											55,448.31
	1.1.7				206,412.63	184,230.34					46,664.71				437,307.68
	1.1							484,000.00	0.00	0.00	140,000.00				624,000.00
	1.2.1.1			6,370.73	67,360.26	108,066.12	611,529.64				29,546.18				820,872.93
	1.2.1.2			3,712.47	771,481.26	820,739.66	619,093.89				42,981.05				2,258,008.33
	1.2.1.3			3,592.43	426,173.08	415,830.80	592,615.78				-161,968.65				1,276,243.44
	1.2.1.4			11,168.75	576,533.21	1,255,365.71	1,026,815.79				431,071.91				3,300,945.37
	1.2.1.5				157,474.29	173,349.36	92,808.39				47,419.90				471,051.95
	1.2.1.6			2,441.60	262,824.54	387,846.06	491,755.11				-150,861.74				994,005.58
	1.2.2.1				137,362.36	32,783.14	1,964.02				1,149.96				173,239.48
	1.2.2.2			3,591.89	978,634.94	1,029,016.03	699,451.48				352,512.38				3,063,206.72
	1.2.2.3			9,583.68	482,139.76	477,188.60	565,142.11				233,759.14				1,767,813.28
	1.2.3			7,526.27	513,378.65	1,395,443.01	723,598.14				316,467.23				2,956,413.30
	1.2.4			4,483.19	594,836.74	441,283.12	20,674.42				148,693.41				1,209,970.88
	1.2.5			35,066.34	1,274,050.23	1,316,668.26	371,020.03				-360,015.72				2,636,789.15
	1.2.6				37,224.65	34,679.07	70,834.24				-77,874.56				64,863.40
	1.3.1.1						1,143,431.92	10,807,464.09	6,409,567.63	6,261.36	2,393,254.33				20,759,979.33
	1.3.1.2							28,279.59	1,116,940.95	427,077.46	-256,679.31				1,315,618.69
	1.3.1.3								999,027.79	1,087,292.05	246,547.90				2,332,867.74
	1.3.1.4								166,146.17	256,536.98	244,994.29				667,676.45
	1.3.1.5								103,838.14	122,378.64	130,719.11				356,935.89

Risk Management

12 GeV Upgrade Risk Registry - Mod & High

Revision Date: 30-September-2013

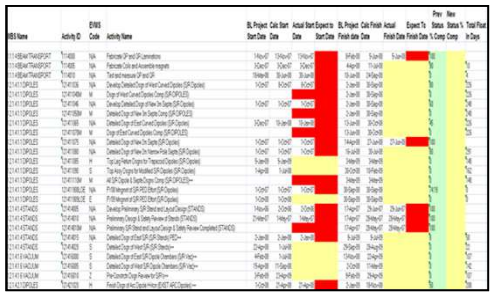
No.	Risk Title	Date Submitted	Submitted By	Date Last Revised	Owner	Description	Risk Timeframe	Likelihood Assessment			Impact Assessment			Risk Rating	First Indicator	Risk Handling Approach (Avoid, Mitigation, Transfer, Accept)	Steps for Handling the Plan	Risk Retired (mark X for Yes and
								Technical	Cost	Schedule	Technical	Cost	Schedule					
FY0506-1 (Retired)	WBS: 1.4.2.1 (Hall B Magnets)	Jul-05	L. Elouadrhiri	Sep-12	C. Rode	Unforeseen technical problems in Hall B superconducting magnets that are severe enough to compromise ultimate performance or that require costly re-work.	Construction	Moderate	Moderate	Moderate	High	High	Moderate	High	Experience with previous SC magnets procured by JLab.	Mitigation	1) Perform R&D and optimization studies to reduce risks where appropriate; 2) Thorough review of design; 3) Vendor selection to emphasize previous successful projects of a similar nature; 4) Specification of contract milestones to provide appropriately staged testing and adequate schedule float to recover from problems identified in early stage; 5) Close monitoring and coordination of vendor work with laboratory engineering representatives, including on-site visits of the vendor; 6) Provision of adequate schedule float in commissioning stage to address problems discovered during commissioning; 7) Maintain core staff at laboratory with relevant experience to recover from problems: superconducting magnet engineering, cryogenic engineering, vacuum and cryogenic fabrication and repair.	X
FY0506-1A	WBS: 1.4.7 (Hall B Torus)	Feb-13	L. Elouadrhiri	Jun-13	C. Rode	Unforeseen technical problems in Hall B superconducting magnets that are severe enough to compromise ultimate performance or that require costly re-work. Vendor performance issues.	Construction	Moderate	Moderate	Moderate	High	High	Moderate	High	Experience with previous SC magnets procured by JLab.	Mitigation	1) Perform R&D and optimization studies to reduce risks where appropriate; 2) Thorough review of design; 3) Vendor selection to emphasize previous successful projects of a similar nature; 4) Specification of contract milestones to provide appropriately staged testing and adequate schedule float to recover from problems identified in early stage; 5) Close monitoring and coordination of vendor work with laboratory engineering representatives, including on-site visits of the vendor; 6) Provision of adequate schedule float in commissioning stage to address problems discovered during commissioning; 7) Maintain core staff at laboratory with relevant experience to recover from problems: superconducting magnet engineering, cryogenic engineering, vacuum and cryogenic fabrication and repair; 8) Additional JLab oversight at vendor including engineering, procurement, and QA; 9) Analyze baseline schedule contingency for possibilities to increase schedule float; 10) Assess impacts and path forward following the contract termination; 11) Contract with FNAL for coil cold mass fabrication; 12) Establish JLab Magnet	
FY0506-1B	WBS: 1.4.7 (Hall B Solenoid)	Feb-13	L. Elouadrhiri	Jun-13	C. Rode	Unforeseen technical problems in Hall B superconducting magnets that are severe enough to compromise ultimate performance or that require costly re-work. Vendor performance issues.	Construction	Moderate	Moderate	Moderate	High	High	Moderate	High	Experience with previous SC magnets procured by JLab.	Mitigation	1) Perform R&D and optimization studies to reduce risks where appropriate; 2) Thorough review of design; 3) Vendor selection to emphasize previous successful projects of a similar nature; 4) Specification of contract milestones to provide appropriately staged testing and adequate schedule float to recover from problems identified in early stage; 5) Close monitoring and coordination of vendor work with laboratory engineering representatives, including on-site visits of the vendor; 6) Provision of adequate schedule float in commissioning stage to address problems discovered during commissioning; 7) Maintain core staff at laboratory with relevant experience to recover from problems: superconducting magnet engineering, cryogenic engineering, vacuum and cryogenic fabrication and repair; 8) Additional JLab oversight at vendor including engineering, procurement, and QA; 9) Analyze baseline schedule contingency for possibilities to increase schedule float; 10) Assess impacts and path forward following the contract termination; 11) Contract with FNAL for coil cold mass fabrication; 12) Establish JLab Magnet Task Force including design effort and oversight	
FY0506-2	WBS: 1.4.2.2 (Hall B Detectors)	Jul-05	L. Elouadrhiri	Jun-13	C. Rode	Cost and schedule over-runs in fabricating the Hall B Silicon Vertex Tracker.	Construction	Low	Moderate	Moderate	Low	High	Moderate	High	Lack of in-house experience with Silicon Vertex Tracker detector.	Mitigation	1) Perform R&D and optimization studies to reduce risks where appropriate; 2) Thorough review of design; 3) Develop alternative procurement strategy in case selected vendor or components become unfeasible; 4) Vendor selection to emphasize previous successful projects of a similar nature; 5) Specification of contract milestones to provide appropriately staged testing and adequate schedule float to recover from problems identified in early stage; 6) Close monitoring and coordination of vendor work with laboratory representatives, including on-site visits of the vendor; 7) Provision of adequate schedule float in commissioning stage to address problems discovered during commissioning; 8) Convene Director's Review of SVT design changes under consideration	
FY0506-3 (Retired)	WBS: 1.4.3.1 (Hall C Magnets)	Jul-05	H. Fenker	Sep-12	C. Rode	Unforeseen technical problems in Hall C superconducting magnets that are severe enough to compromise ultimate performance or that require costly re-work.	Construction	Moderate	Moderate	Moderate	High	High	Moderate	High	Experience with previous SC magnets procured by JLab.	Mitigation	1) Perform R&D and optimization studies to reduce risks where appropriate; 2) Thorough review of design; 3) Vendor selection to emphasize previous successful projects of a similar nature; 4) Specification of contract milestones to provide appropriately staged testing and adequate schedule float to recover from problems identified in early stage; 5) Close monitoring and coordination of vendor work with laboratory engineering representatives, including on-site visits of the vendor; 6) Provision of adequate schedule float in commissioning stage to address problems discovered during commissioning; 7) Maintain core staff at laboratory with relevant experience to recover from problems: superconducting magnet engineering, cryogenic engineering, vacuum and cryogenic fabrication and repair.	X
FY0506-3A	WBS: 1.4.3.1.1 (Hall C HB Magnet)	Feb-13	H. Fenker	Jun-13	C. Rode	Unforeseen technical problems in Hall C superconducting magnets that are severe enough to compromise ultimate performance or that require costly re-work.	Construction	Moderate	Moderate	Moderate	High	High	Moderate	High	Experience with previous SC magnets procured by JLab.	Mitigation	1) Perform R&D and optimization studies to reduce risks where appropriate; 2) Thorough review of design; 3) Vendor selection to emphasize previous successful projects of a similar nature; 4) Specification of contract milestones to provide appropriately staged testing and adequate schedule float to recover from problems identified in early stage; 5) Close monitoring and coordination of vendor work with laboratory engineering representatives, including on-site visits of the vendor; 6) Provision of adequate schedule float in commissioning stage to address problems discovered during commissioning; 7) Maintain core staff at laboratory with relevant experience to recover from problems: superconducting magnet engineering, cryogenic engineering, vacuum and cryogenic fabrication and repair.	
FY0506-3B	WBS: 1.4.3.1.2 (Hall C Q1 Magnet)	Feb-13	H. Fenker	Jun-13	C. Rode	Unforeseen technical problems in Hall C superconducting magnets that are severe enough to compromise ultimate performance or that require costly re-work.	Construction	Moderate	Moderate	Moderate	High	High	Moderate	High	Experience with previous SC magnets procured by JLab.	Mitigation	1) Perform R&D and optimization studies to reduce risks where appropriate; 2) Thorough review of design; 3) Vendor selection to emphasize previous successful projects of a similar nature; 4) Specification of contract milestones to provide appropriately staged testing and adequate schedule float to recover from problems identified in early stage; 5) Close monitoring and coordination of vendor work with laboratory engineering representatives, including on-site visits of the vendor; 6) Provision of adequate schedule float in commissioning stage to address problems discovered during commissioning; 7) Maintain core staff at laboratory with relevant experience to recover from problems: superconducting magnet engineering, cryogenic engineering, vacuum and cryogenic fabrication and repair.	

Contingency and Management Reserve

- 12 GeV Upgrade Project has both Contingency and Management Reserve
- Supports coverage of identified project risks
- Approval Levels
  - Contingency: Project Customer (DOE)
  - Management Reserve: Project Manager
- Change Control process used for allocation

Accounting Consideration

Monthly Progress



Scheduling System

EVM System (PMB)

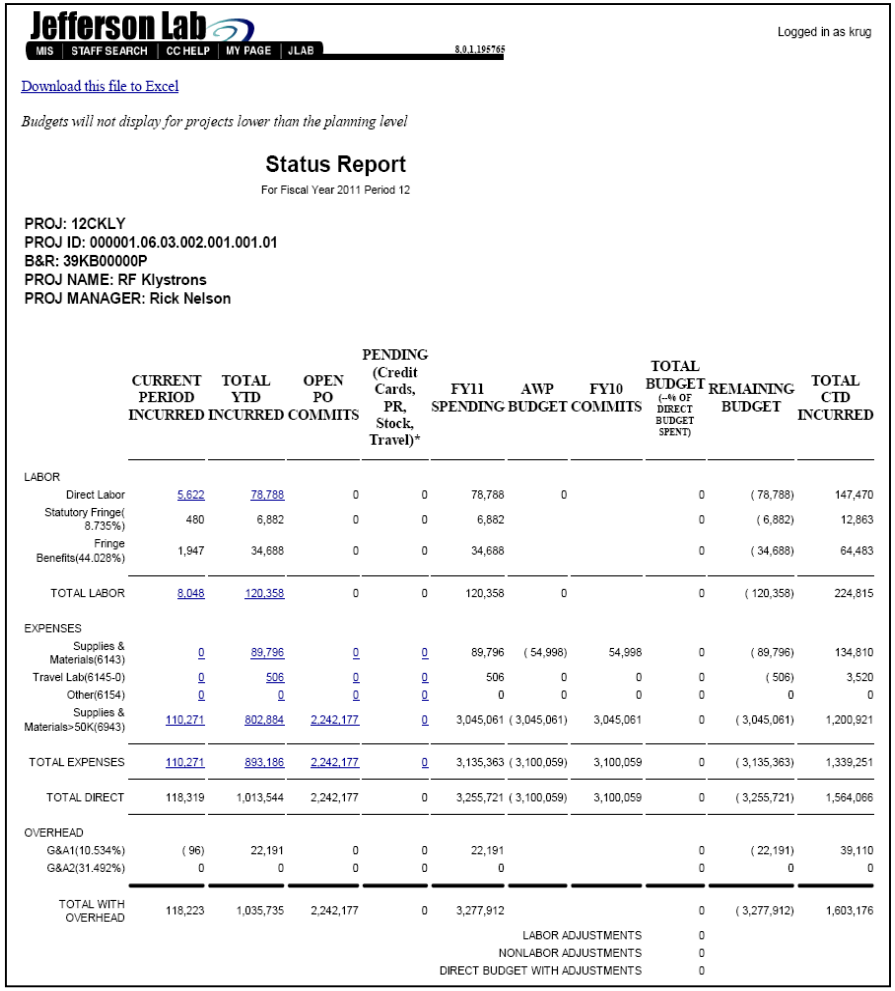
Financial System

Accounting Considerations

- **All project financial transactions are documented, approved, and recorded in the JLab financial accounting system**
  - **Actual project costs are imported into the EVM System (Cost Manager) monthly**
  - **Indirect costs are applied to each project at the current approved rate**
- **The EVM System allows summary costs to be aggregated via the WBS and OBS**

Project Costs

- **Actual costs are updated on a daily basis**
- **Available to CAMs via JLab Management Information System**



Jefferson Lab
MIS | STAFF SEARCH | CC HELP | MY PAGE | JLAB 8.0.1.195765

Logged in as krug

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Budgets will not display for projects lower than the planning level

Status Report

For Fiscal Year 2011 Period 12

PROJ: 12CKLY
PROJ ID: 000001.06.03.002.001.001.01
B&R: 39KB00000P
PROJ NAME: RF Klystrons
PROJ MANAGER: Rick Nelson

	CURRENT PERIOD INCURRED	TOTAL YTD INCURRED	OPEN PO COMMITS	PENDING (Credit Cards, PR, Stock, Travel)*	FY11 SPENDING	AWP BUDGET	FY10 COMMITS	TOTAL BUDGET (-% OF DIRECT BUDGET SPENT)	REMAINING BUDGET	TOTAL CTD INCURRED
LABOR										
Direct Labor	5,622	78,788	0	0	78,788	0		0	(78,788)	147,470
Statutory Fringe(8.735%)	480	6,882	0	0	6,882			0	(6,882)	12,863
Fringe Benefits(44.028%)	1,947	34,688	0	0	34,688			0	(34,688)	64,483
TOTAL LABOR	8,048	120,358	0	0	120,358	0		0	(120,358)	224,815
EXPENSES										
Supplies & Materials(6143)	0	89,796	0	0	89,796	(54,998)	54,998	0	(89,796)	134,810
Travel Lab(6145-0)	0	506	0	0	506	0	0	0	(506)	3,520
Other(6154)	0	0	0	0	0	0	0	0	0	0
Supplies & Materials>50K(6943)	110,271	802,884	2,242,177	0	3,045,061	(3,045,061)	3,045,061	0	(3,045,061)	1,200,921
TOTAL EXPENSES	110,271	893,186	2,242,177	0	3,135,363	(3,100,059)	3,100,059	0	(3,135,363)	1,339,251
TOTAL DIRECT	118,319	1,013,544	2,242,177	0	3,255,721	(3,100,059)	3,100,059	0	(3,255,721)	1,564,066
OVERHEAD										
G&A1(10.534%)	(96)	22,191	0	0	22,191			0	(22,191)	39,110
G&A2(31.492%)	0	0	0	0	0			0	0	0
TOTAL WITH OVERHEAD	118,223	1,035,735	2,242,177	0	3,277,912			0	(3,277,912)	1,603,176
							LABOR ADJUSTMENTS	0		
							NONLABOR ADJUSTMENTS	0		
							DIRECT BUDGET WITH ADJUSTMENTS	0		

Progress Status

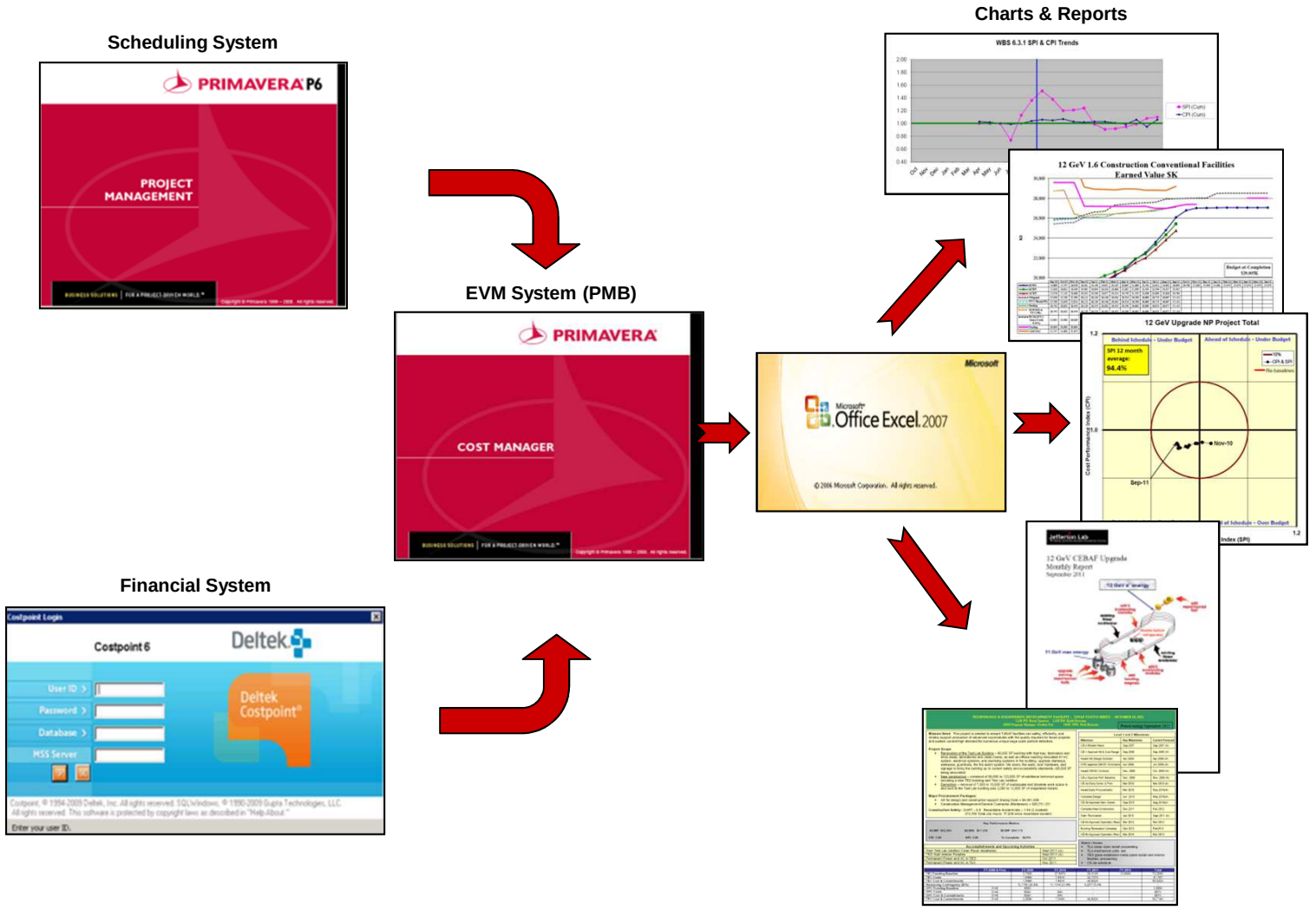
WBS Name	Activity ID	EVMS Code	Activity Name	BL Project Start Date	Calc Start Date	Actual Start Date	Expect to Start Date	BL Project Finish date	Calc Finish Date	Actual Finish Date	Expect To Finish Date	Prev Status % Comp	New Status % Comp	Total Float In Days
1.1.1.4 BEAM TRANSPORT	1114000	N/A	Fabricate QP and QR Laminations	1-Nov-07	13-Nov-07	13-Nov-07		8-Feb-08	5-Jun-08	5-Jun-08		100		
1.1.1.4 BEAM TRANSPORT	1114005	N/A	Fabricate Coils and Assemble magnets	3-Dec-07	3-Dec-07	3-Dec-07		4-Apr-08	11-Jul-08			90		10
1.1.1.4 BEAM TRANSPORT	1114010	N/A	Test and measure QP and QR	18-Mar-08	30-Jun-08	30-Jun-08		10-Jun-08	24-Sep-08			0		4
1.2.1.4.1.1 DIPOLES	121411036	N/A	Develop Detailed Dsgn of West Curved Dipoles (S/R Dipoles)	1-Oct-07	8-Oct-07	8-Oct-07		2-Jan-08	30-Sep-08			80		226
1.2.1.4.1.1 DIPOLES	121411040M	M	Dsgn of West Curved Dipoles Comp (S/R DIPOLES)					2-Jan-08	30-Sep-08			0		226
1.2.1.4.1.1 DIPOLES	121411046	N/A	Develop Detailed Dsgn of New 3m Septa (S/R Dipoles)	1-Oct-07	1-Oct-07	1-Oct-07		2-Jan-08	30-Sep-08			60		248
1.2.1.4.1.1 DIPOLES	121411050M	M	Detailed Dsgn of New 3m Septa Comp (S/R DIPOLES)					2-Jan-08	30-Sep-08			0		248
1.2.1.4.1.1 DIPOLES	121411065	N/A	Detailed Dsgn of East Curved Dipoles (S/R Dipoles)	3-Dec-07	10-Jan-08	10-Jan-08		13-Jun-08	30-Oct-08			45		226
1.2.1.4.1.1 DIPOLES	121411070M	M	Dsgn of East Curved Dipoles Comp (S/R DIPOLES)					13-Jun-08	30-Oct-08			0		226
1.2.1.4.1.1 DIPOLES	121411075	N/A	Detailed Dsgn of New 2m Septa (S/R Dipoles)	1-Oct-07	1-Oct-07	1-Oct-07		14-Apr-08	27-Jun-08	27-Jun-08		100		
1.2.1.4.1.1 DIPOLES	121411080	N/A	Detailed Dsgn of New 2m Narrow Pole Septa (S/R Dipoles)	1-Oct-07	1-Oct-07	1-Oct-07		16-Jul-08	30-Jul-08			80		291
1.2.1.4.1.1 DIPOLES	121411085	H	Top Leg Return Dsgns for Trapezoid Dipoles (S/R Dipoles)	5-Jan-09	5-Jan-09			3-Mar-09	3-Mar-09			0		148
1.2.1.4.1.1 DIPOLES	121411090	S	Top Assy Dsgns for Modified S/R Dipoles (S/R Dipoles)	1-Apr-08	1-Jul-08			30-Oct-08	10-Feb-09			0		162
1.2.1.4.1.1 DIPOLES	121411110M	M	All S/R Dipole & Septa Dsgns Comp (S/R DIPOLES)++					3-Mar-09	3-Mar-09			0		148
1.2.1.4.1.1 DIPOLES	121411908LOE	N/A	FY08 Mngmnt of S/R PED Effort (S/R Dipoles)	1-Oct-07	1-Oct-07	1-Oct-07		30-Sep-08	30-Sep-08			74.19		0
1.2.1.4.1.1 DIPOLES	121411909LOE	E	FY09 Mngmnt of S/R PED Effort (S/R Dipoles)	1-Oct-08	1-Oct-08			30-Sep-09	30-Sep-09			0		0
1.2.1.4.1.4 STANDS	121414005	N/A	Develop Preliminary S/R Stand and Layout Design (STANDS)	1-Nov-06	2-Oct-06	2-Oct-06		17-Apr-07	29-Jun-07	29-Jun-07		100		
1.2.1.4.1.4 STANDS	121414010	N/A	Preliminary Design & Safety Review of Stands (STANDS)	21-Mar-07	1-May-07	1-May-07		17-Apr-07	28-May-07	28-May-07		100		
1.2.1.4.1.4 STANDS	121414010M	N/A	Preliminary S/R Stand and Layout Design & Safety Review Completed (STANDS)					17-Apr-07	28-May-07	28-May-07		100		
1.2.1.4.1.4 STANDS	121414015	N/A	Detailed Dsgn of East S/R (S/R Stands) PED++	2-Jan-08	2-Jan-08	2-Jan-08		9-Jul-09	9-Jul-09			8		58
1.2.1.4.1.4 STANDS	121414020	S	Detailed Dsgn of West S/R (S/R Stands)++	22-Apr-08	1-Jul-08			29-Sep-09	28-Aug-09			0		22
1.2.1.4.1.6 VACUUM	121416000	S	Detailed Dsgn of East S/R Dipole Chambers (S/R Vac)++	4-Feb-08	1-Jul-08			13-Nov-08	22-Apr-09			0		107
1.2.1.4.1.6 VACUUM	121416005	S	Detailed Dsgn of West S/R Dipole Chambers (S/R Vac)++	15-Apr-08	11-Sep-08			2-Oct-08	11-Mar-09			0		142
1.2.1.4.1.6 VACUUM	121416010	Z	Pre-Constrctn Dsgn Review for S/R's++	3-Feb-09	23-Apr-09			9-Feb-09	29-Apr-09			0		107
1.2.1.4.2.1 DIPOLES	121421020	H	Finish Dsgn of Arc Dipole H-Iron (EXIST ARC Dipoles) ++	1-Oct-08	21-Apr-08	21-Apr-08		2-Jan-09	18-Nov-08			50		208

- **Data input into “current” P6 schedule**

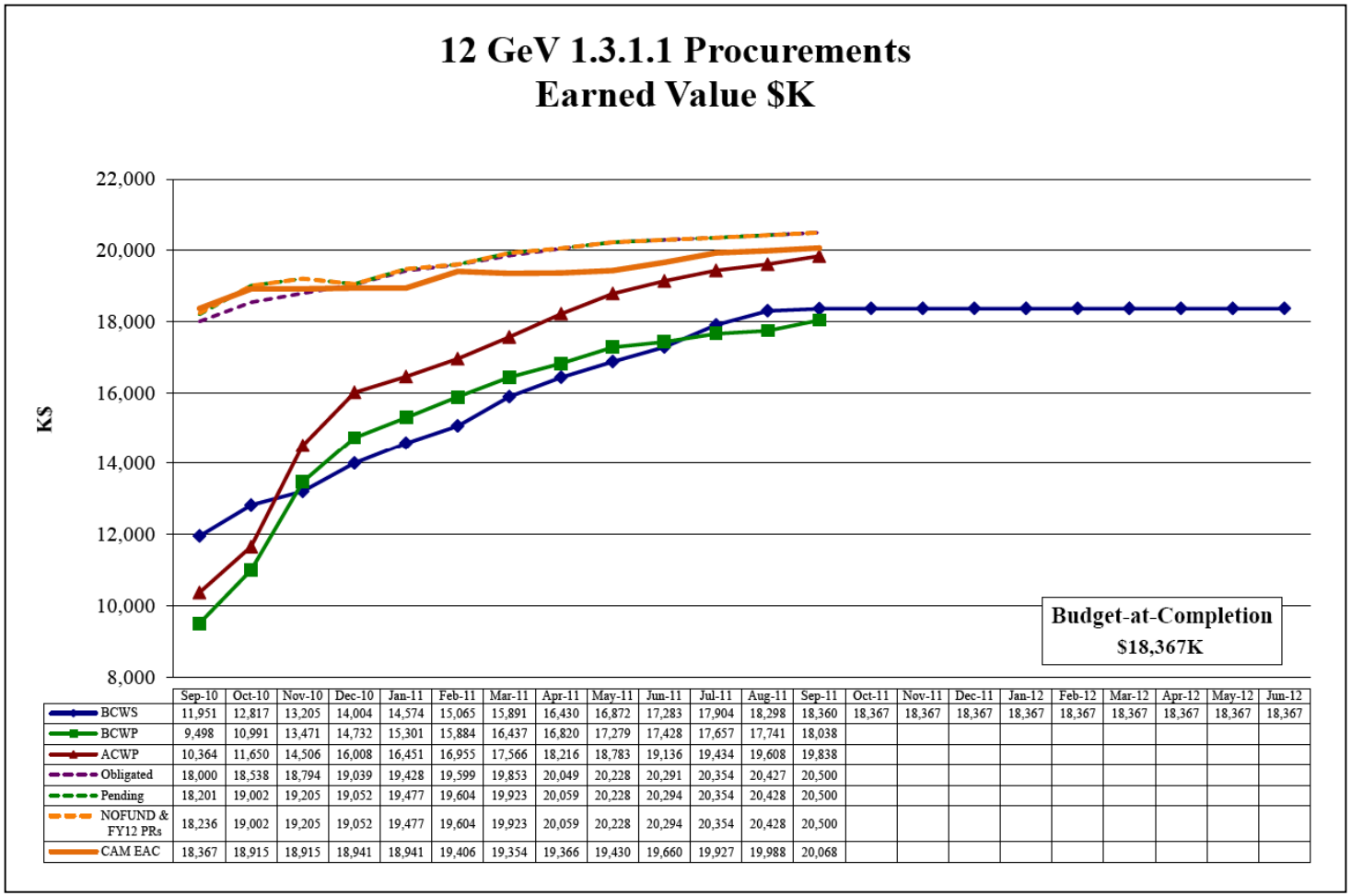
Earned Value Method Codes

Code	Earned Value Method
H	50/50
E	Level of Effort
P	Procurement Pegpoints (0/100)
D	% Delivered
U	% Units Complete
C	% Effort Civil Construction
S	Special (Percent Complete)
M	Milestone
Z	Zero Budget

Analysis and Management Reports



EVM Data



	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
BCWS	11,951	12,817	13,205	14,004	14,574	15,065	15,891	16,430	16,872	17,283	17,904	18,298	18,360	18,367	18,367	18,367	18,367	18,367	18,367	18,367	18,367	18,367
BCWP	9,498	10,991	13,471	14,732	15,301	15,884	16,437	16,820	17,279	17,428	17,657	17,741	18,038									
ACWP	10,364	11,650	14,506	16,008	16,451	16,955	17,566	18,216	18,783	19,136	19,434	19,608	19,838									
Obligated	18,000	18,538	18,794	19,039	19,428	19,599	19,853	20,049	20,228	20,291	20,354	20,427	20,500									
Pending	18,201	19,002	19,205	19,052	19,477	19,604	19,923	20,059	20,228	20,294	20,354	20,428	20,500									
NOFUND & FY12 PRs	18,236	19,002	19,205	19,052	19,477	19,604	19,923	20,059	20,228	20,294	20,354	20,428	20,500									
CAM EAC	18,367	18,915	18,915	18,941	18,941	19,406	19,354	19,366	19,430	19,660	19,927	19,988	20,068									

Schedule & Cost Variance

Analysis and Management Reports

Jefferson Lab

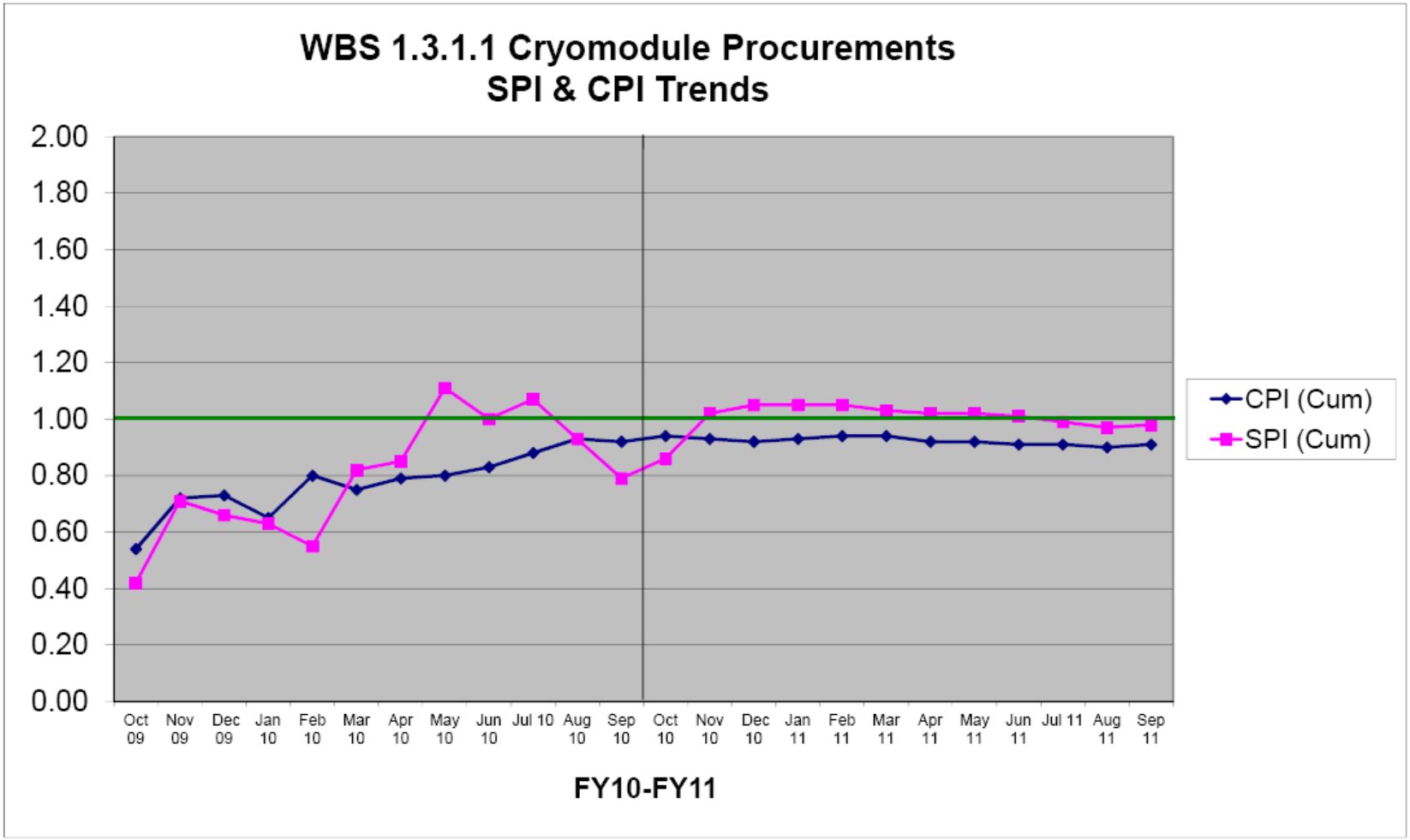
RED FLAG REPORT
12 GeV Upgrade

Report Date: Month of Sep-11

Flag Definition
Yellow: Index <.9 / >1.1 or Variance > $25K
Red: Index <.8 / >1.2 and Variance > $50K

WBS Number and Title	Control Account Manager	Schedule Performance Index Flag	Cost Performance Index Flag	Cumulative Planned Value BCWS	Cumulative Earned Value BCWP	Cumulative Actual Cost ACWP	Schedule Variance SV	Schedule Performance Index SPI	Cost Variance CV	Cost Performance Index CPI
12 GeV 1.3.1.1 Procurements	Hogan			18360	18038	19838	-323	0.98	-1801	0.91
12 GeV 1.3.1.2 Cavity String Assembly	Hogan			1145	949	829	-197	0.83	119	1.14
12 GeV 1.3.1.3 Cryomodule Assembly	Hogan			999	835	799	-164	0.84	36	1.04
12 GeV 1.3.1.4 Acceptance Testing	Hogan			166	166	184	0	1.00	-18	0.90
12 GeV 1.3.1.5 Installation	Hogan			104	113	85	9	1.09	28	1.34
12 GeV 1.3.1.6 Microphonics	Hogan			280	280	270	0	1.00	10	1.04
12 GeV 1.3.2.1.1 RF Power	Merz			6032	5798	5164	-234	0.96	634	1.12
12 GeV 1.3.2.1.2 Control	Merz			2999	2935	2203	-64	0.98	732	1.33
12 GeV 1.3.2.1.3 RF Installation & System Commissionir	Merz			221	219	151	-2	0.99	68	1.45
12 GeV 1.3.2.2 Magnet Power	Merz			2050	1699	2178	-351	0.83	-479	0.78
12 GeV 1.3.3.1 Accelerator	Arenius			18786	15766	16597	-3020	0.84	-831	0.95
12 GeV 1.3.3.2 Hall D	Arenius			198	697	544	499	3.52	153	1.28
12 GeV 1.3.4.1 Spreaders & Recombiners	Bevins			3714	3443	3778	-271	0.93	-335	0.91
12 GeV 1.3.4.2 Existing Arcs (1-9, A, B, & C)	Bevins			4183	4587	4663	404	1.10	-75	0.98
12 GeV 1.3.4.3 Linacs	Bevins			233	210	254	-23	0.90	-43	0.83
12 GeV 1.3.4.4 Injector & Re-injection	Bevins			178	149	109	-29	0.84	41	1.37
12 GeV 1.3.4.5 Arc 10 & Hall D Beamline	Bevins			4404	4270	4594	-135	0.97	-325	0.93
12 GeV 1.3.4.6 Infrastructure	Bevins			15	71	19	56	4.67	51	3.66
12 GeV 1.3.5.1 Cavities	Spata			114	114	39	0	1.00	75	2.94
12 GeV 1.3.5.2 RF Components	Spata			0	0	0	0	0.00	0	0.00
12 GeV 1.3.5.3 Resonance Control	Spata			0	0	0	0	0.00	0	0.00
12 GeV 1.3.5.4 Lambertson	Spata			21	21	3	0	1.00	19	8.41
12 GeV 1.3.5.5 Septa and Dipoles	Spata			39	42	0	4	1.09	42	0.00
12 GeV 1.3.5.6 Stands	Spata			28	4	0	-24	0.13	4	0.00
12 GeV 1.3.6.1 Beam Diagnostics	Spata			317	170	92	-147	0.54	79	1.86
12 GeV 1.3.6.2 Control System Hardware	Spata			229	229	211	0	1.00	19	1.09
12 GeV 1.3.6.3 Control System Software	Spata			15	26	6	11	1.77	20	4.42
12 GeV 1.3.6.4 Safety Systems	Spata			264	275	386	11	1.04	-111	0.71
12 GeV 1.3.6.5 Insertable Dump	Spata			4	4	0	0	1.00	4	0.00
12 GeV 1.3.6.6 Vacuum Controls	Spata			458	522	622	63	1.14	-100	0.84
12 GeV 1.3.6.7 Magnet Instrumentation	Spata			0	0	0	0	0.00	0	0.00
12 GeV 1.4.1 Construction Hall A	LeRose			0	0	0	0	0.00	0	0.00
12 GeV 1.4.2.1 Magnet	Elouadrhiri			3662	3188	3785	-473	0.87	-597	0.84
12 GeV 1.4.2.2 Detectors	Elouadrhiri			7474	6986	7712	-488	0.93	-726	0.91
12 GeV 1.4.2.3 Computing	Elouadrhiri			66	19	4	-46	0.30	15	4.92
12 GeV 1.4.2.4 Electronics	Elouadrhiri			92	100	95	7	1.08	5	1.05
12 GeV 1.4.2.5 Beamline	Elouadrhiri			0	0	0	0	0.00	0	0.00
12 GeV 1.4.2.6 Infrastructure	Elouadrhiri			59	51	108	-8	0.86	-57	0.47
12 GeV 1.4.3.1 Magnet	Fenker			4955	3560	3922	-1395	0.72	-362	0.91
12 GeV 1.4.3.2 Detector	Fenker			198	144	125	-54	0.73	19	1.15
12 GeV 1.4.3.3 Computing	Fenker			0	0	0	0	0.00	0	0.00
12 GeV 1.4.3.4 Electronics	Fenker			31	31	3	0	1.00	28	10.94
13 GeV 1.4.3.5 Beamline	Fenker			62	49	3	-13	0.79	45	15.05
12 GeV 1.4.3.6 Infrastructure	Fenker			911	1012	1019	100	1.11	-7	0.99
12 GeV 1.5.1 Solenoid	Chudakov			831	935	1424	104	1.12	-489	0.66
12 GeV 1.5.2 Detectors	Chudakov			7996	7805	8313	-191	0.98	-508	0.94
12 GeV 1.5.3 Computing	Chudakov			213	143	131	-70	0.67	12	1.09
12 GeV 1.5.4 Electronics	Chudakov			1746	1671	1088	-76	0.96	583	1.54
12 GeV 1.5.5 Beamline	Chudakov			668	635	517	-33	0.95	119	1.23
12 GeV 1.5.6 Infrastructure	Chudakov			788	683	1062	-106	0.87	-380	0.64
12 GeV 1.5.7 Spare Solenoid	Chudakov			31	31	0	0	1.00	31	0.00
12 GeV 1.6.1 Accelerator	Yasky			2972	3178	2833	206	1.07	345	1.12
12 GeV 1.6.2 CHL	Yasky			4538	4532	4360	-6	1.00	172	1.04
12 GeV 1.6.3 Hall D	Yasky			18584	17725	17572	-859	0.95	153	1.01
12 GeV 1.7 Construction Project Management	Rode			5223	5223	4937	0	1.00	286	1.06
12 GeV 1.8.1.1 Beam Commissioning	Harwood			0	0	0	0	0.00	0	0.00
12 GeV 1.8.1.2 Utilities	Harwood			0	0	0	0	0.00	0	0.00
12 GeV 1.8.2.1 Hall A Beam Commissioning	Young			0	0	0	0	0.00	0	0.00
12 GeV 1.8.2.2 Hall B Beam Commissioning	Young			0	0	0	0	0.00	0	0.00
12 GeV 1.8.2.3 Hall C Beam Commissioning	Young			0	0	0	0	0.00	0	0.00
12 GeV 1.8.2.4 Hall D Beam Commissioning	Young			0	0	0	0	0.00	0	0.00
12 GeV 1.8.3 Pre-Ops Support	Rode			0	0	0	0	0.00	0	0.00
11 GeV 1.9.5.1 Hall D Solenoid	Chudakov			0	0	187	0	0.00	-187	0.00
12 GeV 1.9.5.2 Hall D Detectors	Chudakov			2063	2209	2177	147	1.07	33	1.01
12 GeV 1.9.6 N&S LCW	Yasky			3234	3439	3281	205	1.06	158	1.05
12 GeV 1.9.7 Infrastructure	Yasky			694	694	747	0	1.00	-53	0.93

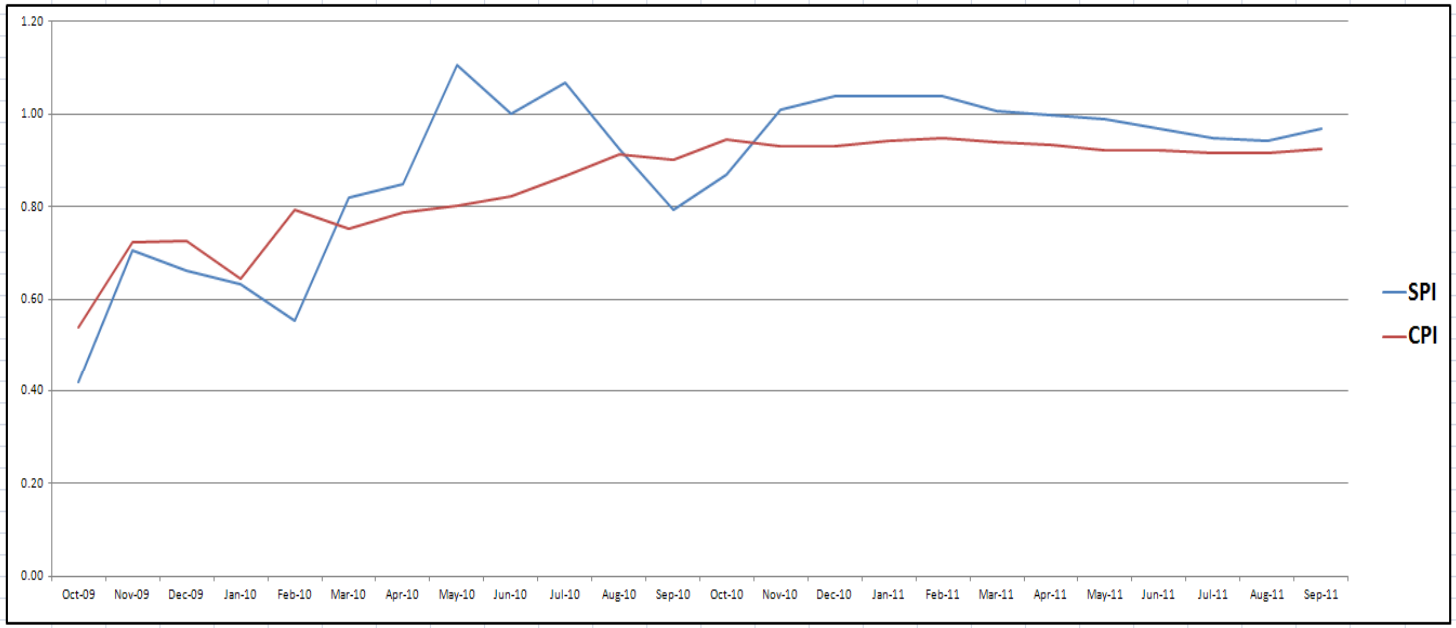
SPI & CPI Trends



SPI & CPI Trends Chart Program

Analysis and Management Reports

A
12 GeV 1.3.1 Cryomodules
12 GeV 1.3.1.1 Procurements
12 GeV 1.3.1.1.1 Cavity String
12 GeV 1.3.1.1.1.1 Niobium Procurement
12 GeV 1.3.1.1.1.2 Cavity Fabrication Procurement
12 GeV 1.3.1.1.1.3 Waveguide Procurement
12 GeV 1.3.1.1.1.4 Helium Vessel Procurement
12 GeV 1.3.1.1.1.5 Hardware Procurement
12 GeV 1.3.1.1.1.6 Miscellaneous Procurement
12 GeV 1.3.1.1.2 Space Frame
12 GeV 1.3.1.1.2.1 Space Frame Procurement
12 GeV 1.3.1.1.2.2 Tuner Procurement
12 GeV 1.3.1.1.2.3 Helium Header Procurement
12 GeV 1.3.1.1.3 Cryomodule
12 GeV 1.3.1.1.3.1 MLI Procurement
12 GeV 1.3.1.1.3.2 Thermal Shield Procurement
12 GeV 1.3.1.1.3.3 Magnetic Shield Procurement
12 GeV 1.3.1.1.3.4 Instrumentation Procurement
12 GeV 1.3.1.1.3.5 End Can Procurement
12 GeV 1.3.1.1.3.6 Vacuum Vessel Procurement
12 GeV 1.3.1.1.3.7 Beam Pipe Procurement
12 GeV 1.3.1.1.3.8 Top Hat Procurement
12 GeV 1.3.1.1.3.9 Support Procurement
12 GeV 1.3.1.1.4 Installation & Assembly Tooling
12 GeV 1.3.1.2 Cavity String Assembly
12 GeV 1.3.1.3 Cryomodule Assembly
12 GeV 1.3.1.3.1 Space Frame Sub-assembly
12 GeV 1.3.1.3.2 Cryomodule Assembly
12 GeV 1.3.1.4 Acceptance Testing
12 GeV 1.3.1.5 Installation



	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11
PV	1270	2046	2310	2673	4627	3735	4521	4823	5699	6904	9221	11979	12885	13555	14523	15187	15795	16902	17726	18495	19456	20309	20900	21055
AC	985	1995	2104	2619	3227	4059	4882	6668	6922	8523	9359	10538	11824	14680	16186	16692	17304	18103	18958	19825	20466	21020	21487	22006
EV	532	1445	1526	1691	2561	3057	3843	5340	5697	7374	8537	9498	11184	13672	15083	15754	16387	16998	17698	18269	18861	19230	19663	20381
SPI	0.42	0.71	0.66	0.63	0.55	0.82	0.85	1.11	1.00	1.07	0.93	0.79	0.87	1.01	1.04	1.04	1.04	1.01	1.00	0.99	0.97	0.95	0.94	0.97
CPI	0.54	0.72	0.73	0.65	0.79	0.75	0.79	0.80	0.82	0.87	0.91	0.90	0.95	0.93	0.93	0.94	0.95	0.94	0.93	0.92	0.92	0.91	0.92	0.93

Variance Analysis Report

Analysis and Management Reports

Variance Thresholds

For Control Accounts:			
Yellow: Index <.9 / >1.1 or Variance > $25K			
Red: Index <.8 / >1.2 and Variance > $50K			
Thresholds			
SV	**SPI**	**CV**	**CPI**
25	0.90	25	0.90
	1.10		1.10
50	0.80	50	0.80
	1.20		1.20

Jefferson Lab

12 GeV Upgrade
VARIANCE ANALYSIS REPORT

WBS 1.5.3: Construction – Hall D Computing
Control Account Manager: Eugene Chudakov
For Period Ending: Oct 13

12 GeV 1.5.3	SCHEDULE FLAG				COST FLAG			
Values are in $K Dollars (other than SPI & CPI)	(A)	(B)	(B-A)	(B/A)	(C)	(D)	(C-D)	(C/D)
	Planned Value	Earned Value	Schedule Variance	Schedule Perform Index	Earned Value	Actual Cost	Cost Variance	Cost Perform Index
	BCWS	BCWP	SV	SPI	BCWP	ACWP	CV	CPI
Month of Oct-13	113	184	71	1.63	184	172	12	1.07
Cumulative	185	291	106	1.57	291	288	3	1.01

Yellow Flag: Index <.9 / >1.1 OR Variance > $25K
Red Flag: Index <.8 / >1.2 AND Variance > $50K

1. Cause (Address Variances Individually)

SV: Several items of computer hardware (WBS 1.5.3.1) arrived early, including VME crate controllers, Event Builder computing nodes, RIAD disks, servers, and network gear.

2. Proposed Solutions (Corrective Actions)

SV: None, the schedule will catch up with progress in a few months.

Estimated Resolution By (Date): January 2014

3. Impact on Project Cost/ Schedules

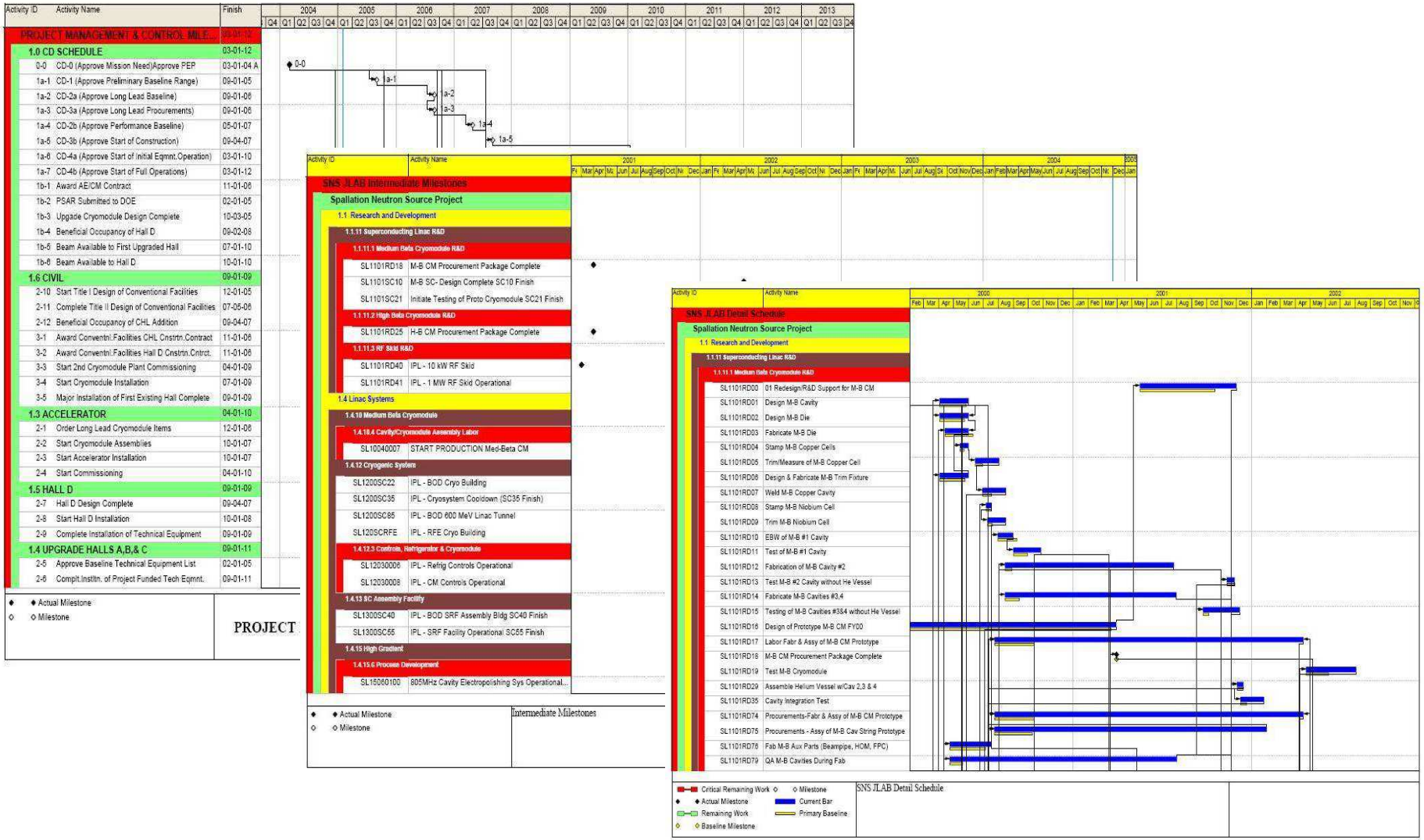
Schedule Variance Projection					
Nov	Dec	Jan	Feb	Mar	Apr
80	50	0			

4. Comments

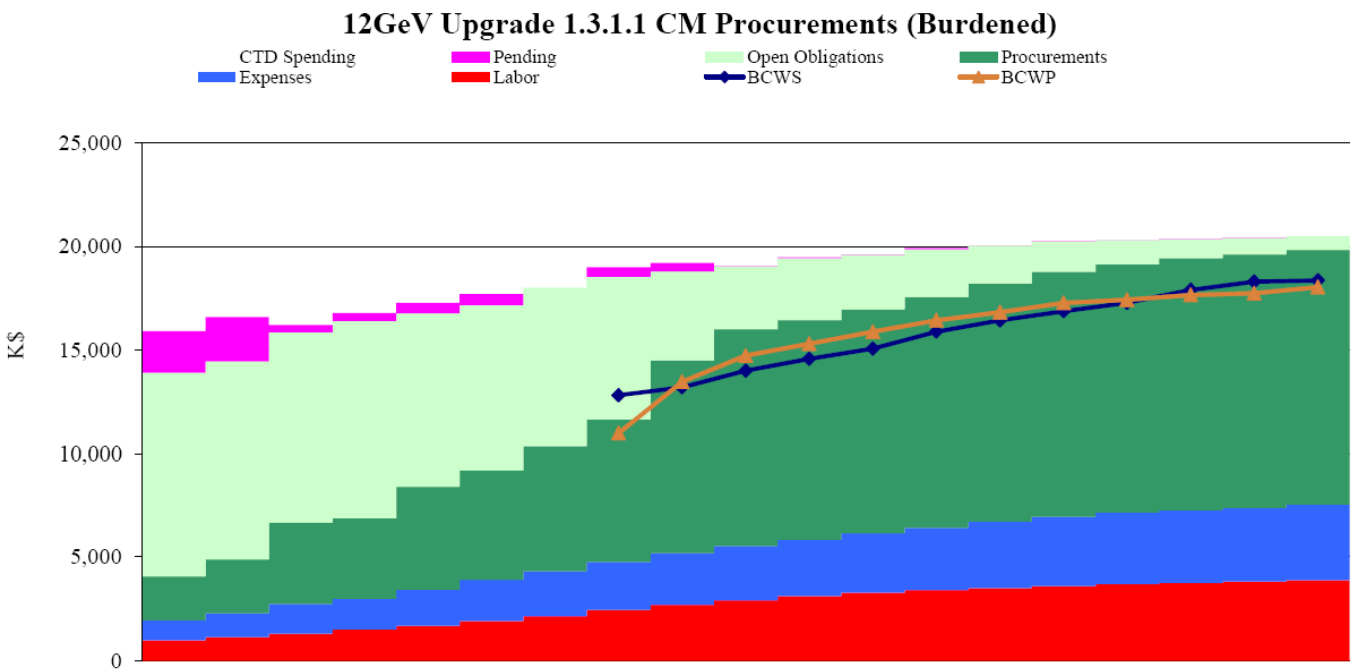
Control Account Manager:	Project Manager:
E. Chudakov	G. R. Young D. Miner for C. Rode

Analysis and Management Reports

P6 Schedule Analysis



Cost Analysis



	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11
CTD Spending	15,925	16,608	16,215	16,788	17,275	17,698	18,000	19,002	19,205	19,052	19,477	19,604	19,923	20,059	20,228	20,294	20,354	20,428	20,500
Pending	2,023	2,152	353	383	503	525	0	464	411	13	49	5	70	10	0	2	0	1	0
Open Obligations	9,855	9,590	9,225	9,555	8,409	7,979	7,636	6,888	4,287	3,030	2,977	2,645	2,287	1,833	1,445	1,155	920	819	661
Procurements	2,115	2,601	3,916	3,880	4,962	5,325	6,070	6,909	9,346	10,499	10,647	10,836	11,188	11,530	11,868	12,013	12,199	12,264	12,336
Expenses	963	1,140	1,424	1,481	1,728	1,963	2,161	2,307	2,478	2,609	2,699	2,856	3,000	3,198	3,325	3,455	3,508	3,545	3,641
Labor	970	1,125	1,297	1,489	1,674	1,908	2,134	2,434	2,682	2,901	3,105	3,263	3,379	3,488	3,590	3,669	3,727	3,799	3,861
BCWS								12,817	13,205	14,004	14,574	15,065	15,891	16,430	16,872	17,283	17,904	18,298	18,360
BCWP								10,991	13,471	14,732	15,301	15,884	16,437	16,820	17,279	17,428	17,657	17,741	18,038

Analysis and Management Reports

Cost Analysis

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Budgets will not display for projects lower than the planning level

Status Report

For Fiscal Year 2011 Period 12

PROJ: 12CKLY
PROJ ID: 000001.06.03.002.001.001.01
B&R: 39KB00000P
PROJ NAME: RF Klystrons
PROJ MANAGER: Rick Nelson

	CURRENT PERIOD INCURRED	TOTAL YTD INCURRED	OPEN PO COMMITS	PENDING (Credit Cards, PR, Stock, Travel)*	FY11 SPENDING	AWP BUDGET
LABOR						
Direct Labor	5,622	78,788	0	0	78,788	0
Statutory Fringe(8.735%)	480	6,882	0	0	6,882	
Fringe Benefits(44.028%)	1,947	34,688	0	0	34,688	
TOTAL LABOR	8,048	120,358	0	0	120,358	0
EXPENSES						
Supplies & Materials(6143)	0	89,796	0	0	89,796	(54,998)
Travel Lab(6145-0)	0	506	0	0	506	0
Other(6154)	0	0	0	0	0	0
Supplies & Materials>50K(6943)	110,271	802,884	2,242,177	0	3,045,061	(3,045,061)
TOTAL EXPENSES	110,271	893,186	2,242,177	0	3,135,363	(3,100,059)
TOTAL DIRECT	118,319	1,013,544	2,242,177	0	3,255,721	(3,100,059)
OVERHEAD						
G&A1(10.534%)	(96)	22,191	0	0	22,191	
G&A2(31.492%)	0	0	0	0	0	
TOTAL WITH OVERHEAD	118,223	1,035,735	2,242,177	0	3,277,912	
						LABOR AD
						NONLABOR AD
						DIRECT BUDGET WITH AD

Jefferson Lab

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Spending by Month

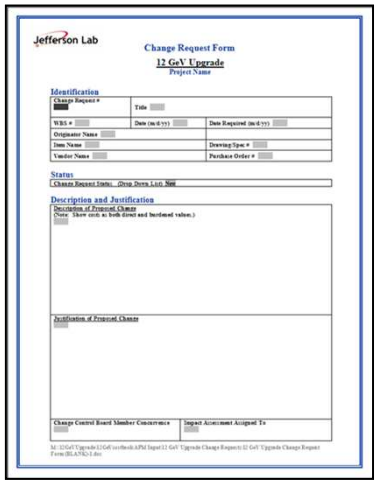
For Fiscal Year 2011

Project: 000001.06.03.002.001.001.01

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	YTD INCUR	OPEN COMMITS	PEND-ING	TOTAL OBLGTD	TOTAL BDGT	RMNG BDGT
Labor																		
Direct Labor	4,288	4,908	3,583	6,734	4,064	3,868	3,465	9,208	14,120	13,255	5,674	5,622	78,788	0	0	78,788	0	(78,788)
Statutory Fringe	384	439	321	603	364	278	301	801	1,228	1,153	530	480	6,882	0	0	6,882	0	(6,882)
Fringe Benefits	1,951	2,233	1,630	3,064	1,849	1,485	1,542	4,098	6,263	5,899	2,708	1,947	34,688	0	0	34,688	0	(34,688)
Total Labor	6,622	7,580	5,534	10,401	6,277	5,631	5,308	14,106	21,632	20,307	8,912	8,048	120,358	0	0	120,358	0	(120,358)
Expenses																		
Supplies & Materials (6143)	0	0	0	0	5,002	0	57,195	1,199	0	185	26,215	0	89,796	0	0	89,796	0	(89,796)
Travel (6145)	0	1,039	0	(460)	0	(72)	0	0	0	0	0	0	506	0	0	506	0	(506)
Other (6154)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Supplies & Materials>50K (6943)	0	0	0	0	44,226	0	23,517	147,028	73,514	330,813	73,514	110,271	802,884	2,242,177	0	3,045,061	0	(3,045,061)
Total Expenses	0	1,039	0	(460)	49,228	(72)	80,712	148,227	73,514	330,998	99,729	110,271	893,186	2,242,177	0	3,135,363	0	(3,135,363)
Total Direct	6,622	8,619	5,534	9,941	55,505	5,559	86,020	162,333	95,146	351,305	108,641	118,319	1,013,544	2,242,177	0	3,255,721	0	(3,255,721)
G&A1	795	1,034	664	886	1,241	611	6,875	1,684	2,380	2,254	3,864	(96)	22,191	0	0	22,191	104,191	82,000
G&A2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total With Overhead	7,417	9,653	6,198	10,827	56,745	6,170	92,895	164,017	97,525	353,559	112,505	118,223	1,035,735	2,242,177	0	3,277,912	104,191	(3,173,721)

Revisions and Data Maintenance

Change Requests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Change Request Form

12 GeV Upgrade

Project Name

Identification

Change Request #

Title

WBS #

Date (m/d/yy)

Date Required (m/d/yy)

Originator Name

Item Name

Drawing/Spec #

Vendor Name

Purchase Order #

Status

Change Request Status: (Drop Down List) New

Description and Justification

Description of Proposed Change

Note: Show cost(s) in both direct and burdened values.)

Justification of Proposed Change

Change Control Board Member Concurrence

Impact Assessment Assigned To

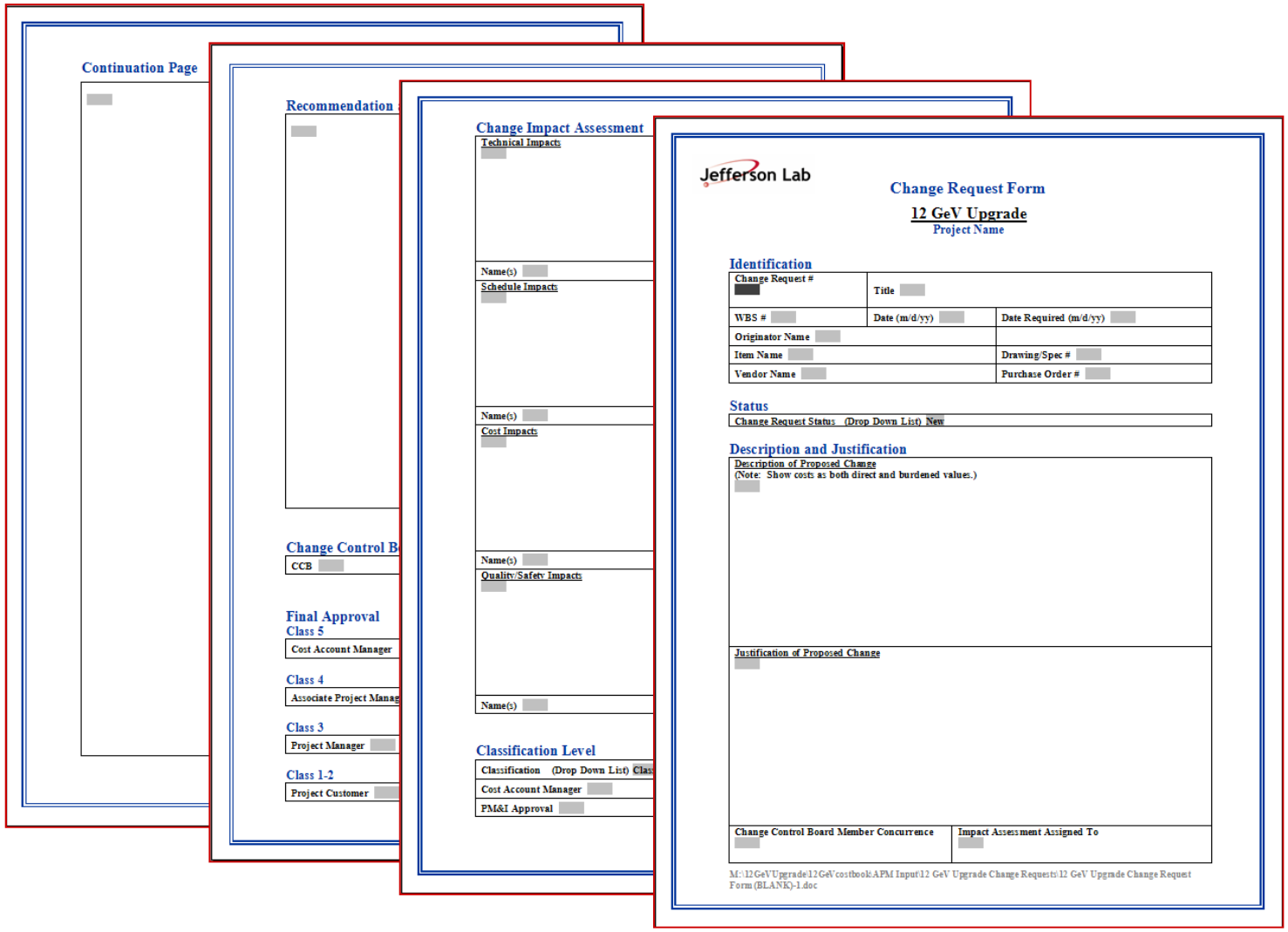
M:\12GeV\Upgrade\12GeV technical\APM Input\12 GeV Upgrade Change Request\12 GeV Upgrade Change Request Form (BLANK)-1.doc

Scheduling System

EVM System (PMB)

Revisions and Data Maintenance

Change Request Form



Revisions and Data Maintenance

Change Request Classifications

	Performance Baseline Deviations	Routine Project Changes		
	Acquisition Executive (SC-2) (Level 0)	SC Associate Director (Level 1)	Federal Project Director (Level 2)	Contractor Project Manager (Level 3)
Technical Scope	Any change in scope and/or performance that affects mission need requirements or is not in conformance with current approved Project DataSheet	Any change that positively affects CD-4 Deliverables as identified in PEP Section 5.1	N/A	Any significant change in the System Requirements Document
Schedule	Any change to CD-4B Project Completion Date	≥ 3 month change to a Level 1 Milestone (except for CD-4B) listed in PEP Table 5.5	Any use of schedule contingency that extends the critical path or changes to a Level 1 Milestone (PEP Table 5.5) less than 3 months (except for CD-4B), or any change to a Level 2 Milestone (PEP Table 5.6)	Any change to a Level 3 Milestone > 3 months
Cost	Any increase to CD-2 TPC baseline	Any change to CD-2 baseline TEC or OPC	Any use of contingency, and cumulative change, plus or minus ≥ $2M of any WBS Level 2 cost element	Any cumulative change at WBS Level 2 < $2M that does not use contingency

- **Classification Level determines Final Approval Authority**

Classification*	Level 1-2	Level 3	Level 4	Level 5
Approval Authority	Project Customer Approval Required	Project Manager Approval Required	Assoc Project Manager Approval Required	Control Account Manager Approval Required
Technical Work Scope	Changes to work scope or performance requirements specified by the customer or included in the Mission Need approved by the customer	Changes to work scope or performance requirements that affect multiple APMs, but do not require customer approval	Changes to work scope or performance requirements that affect multiple CAMs, but do not affect other APMs	Changes to work scope or performance requirements that do not affect other CAMS
Schedule/ Milestones	Changes to Level 1-2 milestones that are under customer control	Changes to Level 3 milestones	Changes to Level 4 milestones	Changes to Level 5 milestones
Cost	Changes to the customer-approved Project Budget Base (TPC & TEC)	Changes that involve a transfer of work scope and its associated budget between APMs	Changes that affect multiple CAMs, do not affect other APMs	Changes that do not affect other CAMs

Revisions and Data Maintenance

Change Request Log

Jefferson Lab

FY13 NP Change Request Log
12 GeV Upgrade

as of: 30 Sep 13

CHANGE IN CONTINGENCY AND MANAGEMENT RESERVE
ESCALATED VALUES

CR #	Class	WBS #	CR Title	Date Submitted	Date Required	Originator	CCB Concur	Impact Assessment	Status	Approval Date	Implementation: Cost Book	Implementation: Cost Mgt	Implementation: P6	WAD	1.0 Cont.	1.0 MR	1.1 Cont.	1.1 MR	1.2 Cont.	1.2 MR	1.3 Cont.	1.3 MR	1.4 Cont.	1.4 MR	1.5 Cont.	1.5 MR	1.6 Cont.	1.6 MR	1.7 Cont.	1.7 MR	1.8 Cont.	1.8 MR	1.9 Cont.	1.9 MR	1.10 Cont.	1.10 MR	AY$ Total Cont.	AY$ Total MR
13-001	2	1.	Admin CR to Update Cost book to Reflect FY12 Actuals and Commitments; Escalate Cost book, P6 and Cost Manager to FY13$	10/10/2012	10/31/2012	V. Jemian	Yes	Complete	Approved	10/25/2012	kkr10-25-12, Scenario 1125	kkr10-25-12	BL13-001D October 12 Progress		$0k		$0k		$0k		($2,144k)		($674k)		($1,793k)		$40k		$25k		($5k)						($4,328k)	
13-002	3	1.4.2.6.4	Hall B Installation Re-planning	9/11/2012	10/31/2012	L. Elouadrhiri	Yes	Complete	Approved	11/30/2012	vajf11-30-12, Scenario 1140	vajf12-5-12	BL13-002 November 12 Progress										($17k)															($17k)
		1.8																																			
13-003	2	1.3	FY13 ETC for WBS 1.3	10/9/2012	10/31/2012	L. Harutunian	Yes	Complete	Approved	10/31/2012	vajf10-26-12, Scenario 1134	vajf11-5-12	BL13-003 October 12 Progress								($988k)																($988k)	
		1.8.1																													($20k)				($20k)	
13-004	5	1.4.2.7.2	Major Contract Award: Hall B Solenoid	11/28/2012	12/31/2012	L. Elouadrhiri	Yes	Complete	Approved	12/19/2012	vajf12-7-12, Scenario 1141	vajf12-10-12	BL13-004 November 12 Progress												$13k													$13k
13-005	5	1.4.2.7.1	Hall B Torus Engineering Labor	12/7/2012	12/31/2012	L. Elouadrhiri	Yes	Complete	Approved	12/19/2012	Vajf12-12-12, Scenario 1142	vajf12-19/12	BL13-005 November 12 Progress												$0k	$0k											$0k	$0k
13-006	2	1.4.3	Hall C FY13 Replan	12/7/2012	12/31/2012	H. Fenker	Yes	Complete	Approved	1/24/2013	vajf1-29-13, Scenario 1148	vajf1-31-13	BL 13-006 January Progress										($896k)														($896k)	

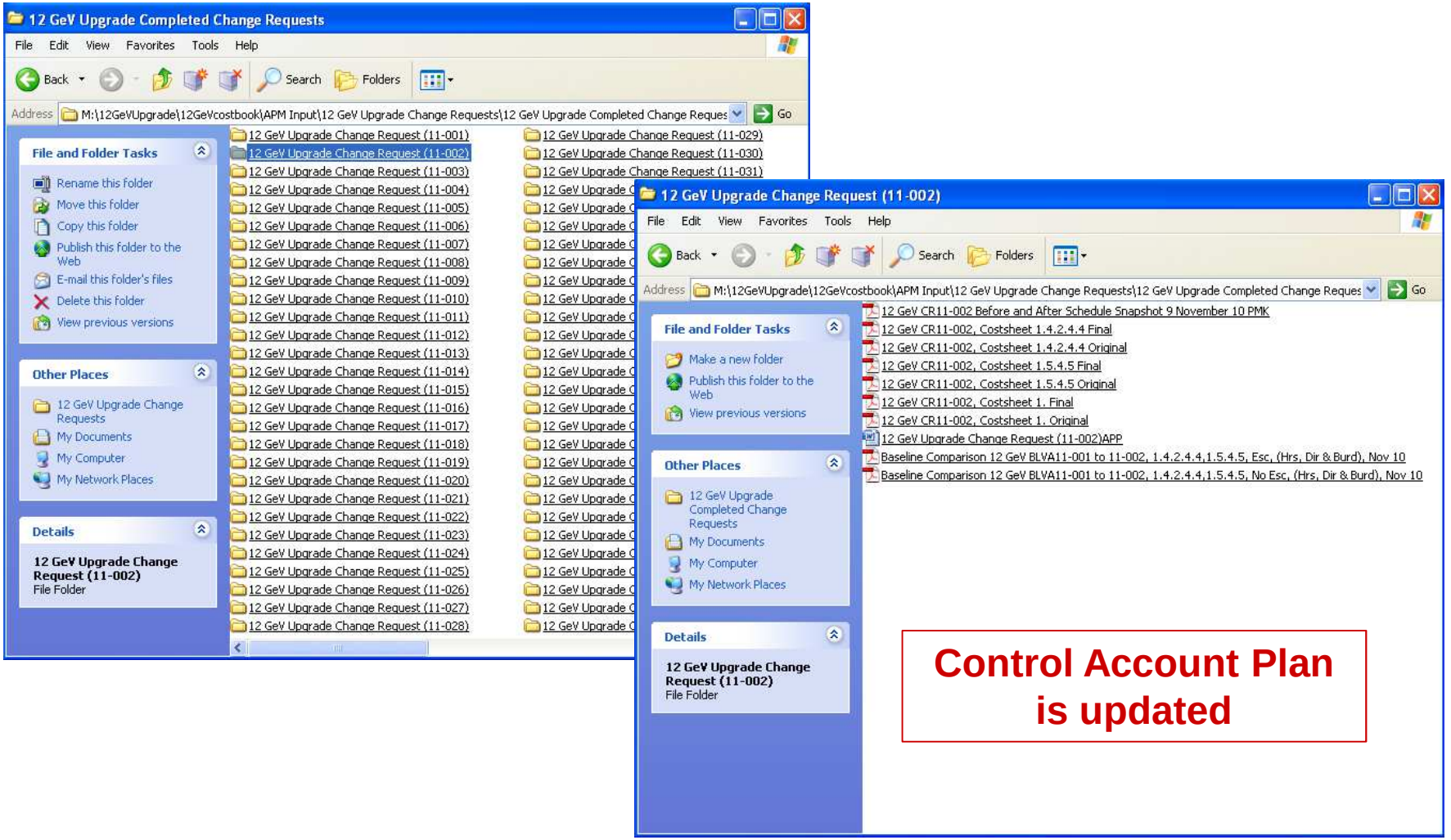
Contingency/MR Log

12 GeV

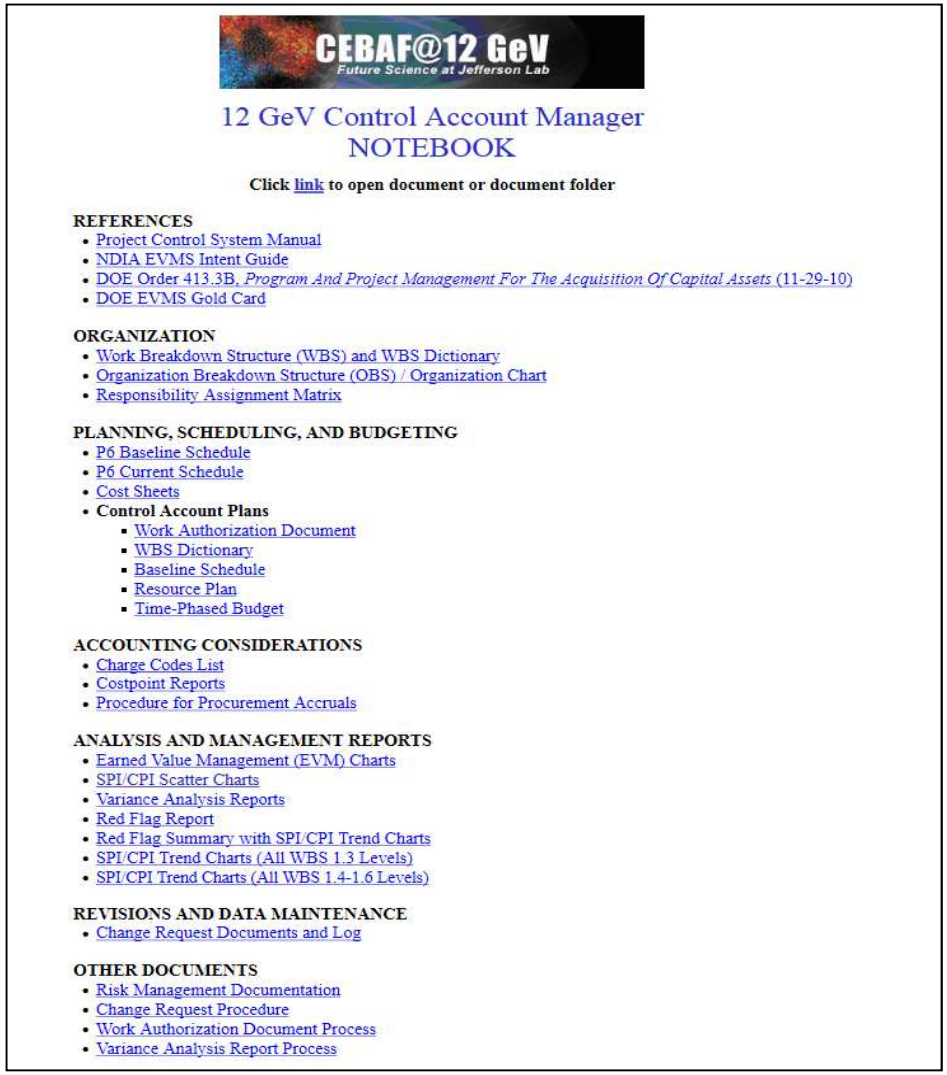
					1.0		1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		1.10		Total	
					Cont.	MR	Cont.	MR	Cont.	MR	Cont.	MR	Cont.	MR	Cont.	MR	Cont.	MR	Cont.	MR	Cont.	MR	Cont.	MR	Cont.	MR	Cont.	MR
		Management									Construction																	
	Contingnecy	Reserve	Total	CD-2	$11k	$0k	$527k	$0k	$1,813k	$0k	$64,888k	$0k									$4,612k	$0k		$0k		$0k	$71,851k	$0k
TEC	$29,462k	$2,663k	$32,125k	FY08 Changes	$0k	$44k	($458k)	$65k	($114k)	$232k	($7k)	$1,658k									$0k	$0k	$0k	$0k	$0k	$0k	($579k)	$1,999k
OPC	$2,608k	$0k	$2,609k	FY09 Changes	$0k	$0k	($42k)	($108k)	($1,127k)	$117k	($2,549k)	($1,635k)									($266k)	$0k	$0k	$0k	$0k	$0k	($3,983k)	($1,626k)
TPC	$32,070k	$2,664k	$34,734k	FY10 Changes	$0k	$0k	($36k)	$0k	($921k)	$7k	($16,178k)	$3,041k									($541k)	$0k	$0k	($3,644k)	($140k)	($484k)	($17,816k)	($1,081k)
				FY11 Changes	$0k	$0k	$0k	$0k	$0k	$0k	($16,344k)	($756k)									($1,200k)	$0k	$0k	$0k	$0k	$0k	($17,544k)	($756k)
Claus contingency file thru CR11-059			$34,733k	Current	$11k	$44k	($9k)	($43k)	($349k)	$356k	$29,810k	$2,308k									$2,606k	$0k	$0k	($3,644k)	($140k)	($484k)	$31,930k	($1,464k)

Revisions and Data Maintenance

Implementation Documentation



CAM Notebook



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Future Science at Jefferson Lab

12 GeV Control Account Manager
NOTEBOOK

Click link to open document or document folder

REFERENCES
- Project Control System Manual
- NDIA EVMS Intent Guide
- DOE Order 413.3B, *Program And Project Management For The Acquisition Of Capital Assets* (11-29-10)
- DOE EVMS Gold Card

ORGANIZATION
- Work Breakdown Structure (WBS) and WBS Dictionary
- Organization Breakdown Structure (OBS) / Organization Chart
- Responsibility Assignment Matrix

PLANNING, SCHEDULING, AND BUDGETING
- P6 Baseline Schedule
- P6 Current Schedule
- Cost Sheets
- **Control Account Plans**
  - Work Authorization Document
  - WBS Dictionary
  - Baseline Schedule
  - Resource Plan
  - Time-Phased Budget

ACCOUNTING CONSIDERATIONS
- Charge Codes List
- Costpoint Reports
- Procedure for Procurement Accruals

ANALYSIS AND MANAGEMENT REPORTS
- Earned Value Management (EVM) Charts
- SPI/CPI Scatter Charts
- Variance Analysis Reports
- Red Flag Report
- Red Flag Summary with SPI/CPI Trend Charts
- SPI/CPI Trend Charts (All WBS 1.3 Levels)
- SPI/CPI Trend Charts (All WBS 1.4-1.6 Levels)

REVISIONS AND DATA MAINTENANCE
- Change Request Documents and Log

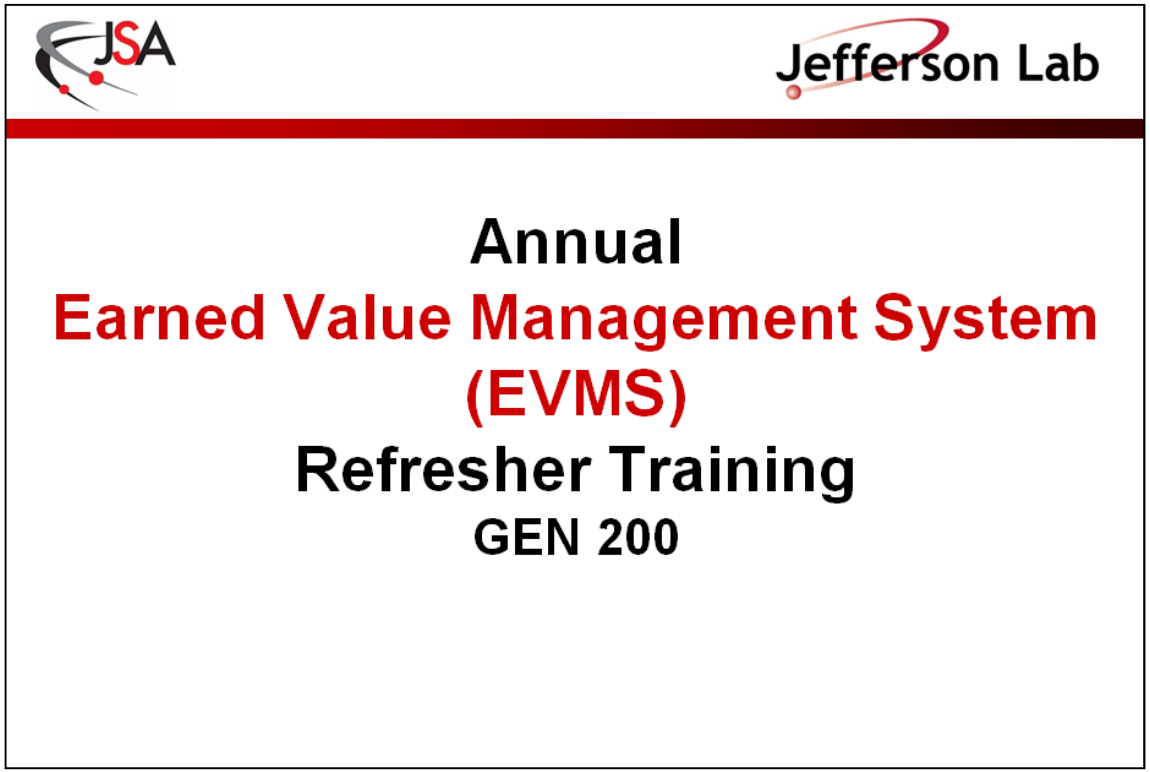
OTHER DOCUMENTS
- Risk Management Documentation
- Change Request Procedure
- Work Authorization Document Process
- Variance Analysis Report Process

- **Electronic webpage with links to documents, files and folders**

EVMS Training

- **CIO* from 2011 DOE EVMS Review**

  Training – Some Control Account Manager (CAM) responses were tentative and lacked an understanding of the EVMS process. Recommend more prescriptive, periodic, and interactive EVMS training including continuous refresher training.



Jefferson Science Associates

Earned Value Management System

QUESTIONS ?